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FALL 1997

*Big Sky*

Fall 1997  
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# CLEARWATER



**Governor Tim Babcock signing the...**  
**Water & Wastewater Operator Certification Act, March 7, 1967**

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*Published by*  
**Montana Department of Environmental Quality**  
**Planning, Prevention & Assistance Division**  
*in partnership with the*  
**Permitting & Compliance Division**







his publication welcomes articles of interest and random pieces of information on water and wastewater treatment. If you have ideas or information you would like to share with other people involved in the water or wastewater field, please contact the Department of Environmental Quality.

An article may consist of your thoughts and ideas about something you may have experienced or such information that could help someone else in their day-to-day work. It could also be a technical article developed from research information and library resource material. If it has to do with these topics and you think it may be of interest, please send it to us (Attention: Clearwater Editor), or give Bill Bahr or Rick Cottingham a call at 444-4454.

If you do not wish to continue receiving this publication, please send us your mailing label so we may remove it from our mailing list. Thanks!

## Cover

*The photo on the cover is of Governor Babcock signing the certification bill into law. He is surrounded by the first advisory council and other dignitaries. The editor is offering a prize to the first person to write in and name all the pictured professionals (standing left to right).*

Editor: Bill Bahr



he *Big Sky Clearwater* is for water and wastewater operators across Montana. It is published twice



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# 30 Years of Operator Certification

**T**he Permitting & Compliance Division and the Planning, Prevention & Assistance Division staffs of the Department of Environmental Quality are pleased to help celebrate thirty years of water and wastewater operator certification in Montana through the publication of this issue of The CLEARWATER and other activities this summer and fall. Those of us involved in community assistance programs, like the State Revolving Fund program and the Public Water Supply program, work cooperatively with the Operator Certification program to create a statewide network of operator training, technical assistance efforts and system evaluations geared to protect public health and the environment throughout Montana.

**F**ew things could be more important to all Montanans than to be able to drink safe water and to protect high-quality state waters. Groups working to achieve these lofty goals in the state on both the private and public level include: federal agencies using standards and policies established in the Clean Water Act, now 25 years old, and the recently reauthorized Safe Drinking Water Act, that includes operator certification requirements; state professional organizations like the Montana Water Environment Association and the Montana Section of the American Water Works Association, who provided the initial financing of the first operator certification council; and state offices, that are responsible for administering many of the laws that exist to protect the lives of Montana citizens and the natural environment they inhabit.

**I**n this issue, we have taken the opportunity to include some of the history of operator certification in Montana. I hope this brings back some fond memories for the old-timers and a link to the dim past for you newcomers. Included in this backward glance: news of the first certification council meeting; an operator newsletter by the certification officer; letters from some of the first operators and certification council members; reprints from early issues of The CLEARWATER, including the first issue called the Used Water News; and impressions from the current certification council about certification and other topics. We hope you enjoy them and offer them as a salute to the dedicated professional operators that all Montanans rely on every day.

*P.S. The opening session at the operators' water school in Bozeman this fall will include some activities to acknowledge this 30-year milestone. Perhaps the governor may dedicate Monday, September 22, 1997, as Operators' Day in Montana. Water for thought!*



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# Water & Wastewater Operator Certification News

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*By Shirley Quick, Certification Officer, DEQ*

## **S**aluting the People Who Launched *Operator Certification in Montana 30 Years Ago!*

**T**his issue of the *Big Sky Clearwater* is dedicated to the 30-year anniversary of the signing of the original water and wastewater operators' certification bill on March 7, 1967. However, operator certification has been an issue in Montana for much longer than 30 years.

**Jim Melstad**, historian for the Montana Section American Water Works Association (MSAWWA), found a letter in the association records dated June 26, 1933 from a member of the California Sewage Works Association to **H.B. Foote**, Director of the Division of Water and Sewage of the then Montana State Board of Health. In this letter, Mr. Foote was asked for information on the discussions that Montana was having on licensing operators of water and sewage treatment plants.

**Mr. Foote** replied in a letter dated June 29, 1933, that the MSAWWA had several discussions on this topic at its past annual meetings. He went on to say that the association had introduced a bill at the previous legislature requesting that water and sewage operators be placed under Civil Service, but the bill had not been enacted. The association was then thinking of looking into licensing operators and was going to "study it thoroughly to determine if it is adaptable to Montana conditions."

In September 1966 the first issue of "The Used Water News" was published by the Water Pollution Control Section of the Montana State board of Health, Division of Environmental Sanitation. An article on operator certification in this newsletter included the notification of the appointment in 1965 of a permanent Operator Certification Committee by the Executive Committee of the Montana Section of American Water Works Association and the Water Pollution Control Administration.

The committee members were: **C.W. Brinck**, Helena; **Frank Taylor**, Billings; **Del Brick**, Great Falls; **Leonard Oppenrud**, Havre; **Robert Haverfield**, Missoula; **George Malben**, Helena; **Vernon Reed**, Livingston; **Lowell Fisher**, Great Falls; and **Al Klingler**, Shelby.

This committee was directed by the association membership to proceed with "drafting a law applicable to Montana including a determination of policy to be presented to the Montana Municipal League, classifying Water and Wastewater plants and Water Distribution systems, and setting up a system of grading personnel in responsible charge of works on a basis commensurate with the type of treatment required."

The certification program the committee proposed would: "1) Improve the status of the

operator; 2) Improve the quality of Works operation; 3) Provide a roster of qualified personnel; 4) Provide a means of determining desirable qualifications for operating personnel; and 5) Provide greater protection of Public Health.”

The committee met several times and drafted a bill that was presented to the membership of the joint sections of Montana American Water Works Association and Water Pollution Control Administration. The committee rewrote the bill incorporating the ideas from the membership for presentation at the 1967 legislature.

Another interesting item mentioned in this article was that “it appears quite obvious that it is only a question of time before this program [operator certification] becomes nation-wide.” They were right, it only took 30 years for the SDWA reauthorization of 1996 to require operator certification nationally! Obviously Montana was way ahead of the times.

On March 7, 1967, **Governor Tim Babcock** signed Senate Bill 24, Chapter 239, Session Laws of 1967 [see the picture on the front cover]. This law required certification for operators of water supply systems and wastewater systems in order to protect the public health and safety and to protect Montana’s waters.

Montana joined 14 other states with a program for mandatory certification. Operators of record on July 1, 1967, could apply for grandfather certification without examination but otherwise were required to pass the examination for the classifications specified in the rules. By October 1969, there were 695 certified operators [1,433 certified in June 1997].

That October, Governor Babcock appointed the following people to the first Board of Certification for Water and Wastewater Operators (now called an Advisory Council):

**Claiborne Brinck**, Helena, Director of the Division of Environmental Sanitation of the then Department of Health, as director and a permanent member of the board;

**Edward R. Waldo**, Billings, representing a municipality (operator #1);

**William Walter**, Professor of Bacteriology at Montana State University, Bozeman, representing a university faculty;

**Wayne Young**, Butte, water treatment operator (#5) holding a certificate of the highest class;

**S.R. Young**, Hardin, water treatment operator (#2);

**Leonard Oppenud**, Havre, wastewater treatment plant operator (#4); and

**Robert A. Haverfield**, Missoula, wastewater treatment plant operator (#3) holding a certificate of the highest class.

The first meeting of the Board was held on October 26, 1967 in Helena. Mr. Waldo was elected chairman at that meeting. The minutes of that meeting show the following topics on the agenda: Funds and Organization [see article in this Clearwater by Wayne Young]; Classifications; and Temporary Licenses.

**Bette Erickson** was the first certification program manager, followed by **Dorothy Rylander**, then **Rosemary Fossum**. Until 1988, when Rosemary went full-time, this program was run by one half-time position. **Shirley Quick** took over the program manager position when Rosemary retired in 1993.

The current Water and Wastewater Operators Advisory Council members are: **Mike Holzwarth**, Colstrip, chairman; **Bob Cottom**, Dillon; **Warren Jones**, MSU-Bozeman; **Lee Leivo**, Bigfork; **Curt Myran**, Miles City; **Steve Ruhd**, Dillon; and **Jim Melstad**, DEQ Drinking Water section head.

All Montanans rely on the safe drinking water and protected state waters that certified operators help provide. We all owe a lot to these people who put



so much time and devotion in starting the operator certification program in Montana and for the Council members, program staff, trainers, and operators who have continued to work so hard through the years to make Montana's certification program one of the best in the country.

The program has grown a great deal since November of 1993 when I took over as program manager with a quarter-time assistant. The operator certification program now consists of my full-time position, **Camie Smith** working in the "little over three-quarter-time" program assistant position, and a full-time certification specialist position funded by drinking water state

revolving funds approved by the 1997 legislature. The legislature also passed the law requiring non-transient non-community systems to have a certified operator. This requirement will go into effect on July 1, 1998.

The law states that the purpose of operator certification is to protect the public health and safety by certifying persons working in water and wastewater systems. With your help the Montana certification program will continue to grow and change, to be of service to the operator community and to ensure that Montana's public health and state waters are protected.

★★★★

## **Quick Reminders**

**The next exam** for all classes of certification will be **Friday, September 26, 1997** in Bozeman. The **deadline to sign-up** for that exam is **September 11**.

**Fall water school** will be held from **September 22-25, 1997** in Bozeman. Contact METC (406/454-2728) for more information.

**The spring exam** for all classes of certification will be **March 1998**, in Billings, Great Falls, Havre, Helena, Kalispell, Miles City and Missoula. Contact the Certification Office (406-444-2691) to request an application.

Remember that you must earn your **CECs by June 30, 1998** to renew your certificate next year.

**Questions? Contact the Certification Office:  
Shirley Quick 444-2691**

# What are your Earliest Memories of Operator Certification?

## "THE FIRST CERTIFICATION BOARD MEETING"

(a letter from Wayne Young)

June 21, 1997

At the very first meeting of the Certification Board, we sat down in Clay Brinck's office in the old Department of Health Building in Helena. We were a select group appointed by the Governor and mandated by state law to do a job. And there we sat not owning one pencil or sheet of paper to record the minutes of our first meeting. And worse yet we had no money to go buy a piece of paper or pencil. It seems the legislature didn't appropriate any funds for the Board and we certainly weren't in the Department of Health's budget. So like anyone else who is flat broke, our only recourse was to borrow, and borrow we did, \$500 each from the State Water and the Wastewater associations. So, with borrowed money, borrowed space, borrowed help, Clay Brinck's guiding hand (from the Department of Health), and Ed Waldo (our first Chairman) we shakily began this 30-year trek.

Wayne Young  
Board Member '67-'86  
Operator #5

p.s. We repaid our loans shortly after  
we began receiving operator fees.

*Two of the first  
Advisory Council members  
and operators remember  
how it all began!*

## PHONE INTERVIEW with BOB HAVERFIELD

(operator from '68 to '89)

Bob Haverfield was on the original committee to draft the first operator certification law back in 1966. He attended hearings during the 1966-67 legislative session and was integral in getting the certification bill passed in 1967. He was selected by governor Tim Babcock to serve on the original "Board of Certification for Water and Wastewater Operators." Bob held operator number 3 as a Class 1 wastewater operator from January of 1968 until his retirement in 1989.

Bob said that although he was operator number 3, he was the first operator to take and pass a certification exam because everyone else was "grandfathered" in. Although Bob also would have qualified for a "grandfather" certification since he had been working in the wastewater field since 1961, they needed an operator on the Board who had actually passed the exam, so Bob volunteered.

Bob was the supervisor of the Missoula wastewater treatment plant when he retired and moved to Idaho where he held operator number 13 for several years. He also was a long-time member of the Water Pollution Control Federation and the Montana Section of the American Water Works Association. Bob said that the AWWA in Montana was a "good, hardworking, unpretentious group" and he thoroughly enjoyed working with them.

Bob must have started a family tradition in certification since his son, Dave, has held a Class 1 certification in water distribution, water treatment, and wastewater since 1975. Dave is currently the district manager for the Missoula County RSID in Lolo.



## What are your Earliest Memories of Operator Certification

**WARREN JONES** (*assistant professor of engineering at MSU, Bozeman*):

### About certification and the Council:

**M**y earliest memories of Certification are of being told by Howard Peavy that I was going to be put on the Council as his replacement. Rosemary was on her way to retirement, I was still trying to figure out what Water School was (never mind how to direct it; of course, I STILL haven't figured that out), and the first thing the Council did was to re-write all of the rules. All of it was a pretty steep learning curve, and it gave me an appreciation for not only all of the hard work by our operators, but the level of frustration they experience with regulatory issues. It is my sincere hope that certification (in Montana, at least) is the least troublesome of those issues.

**LEE LEIVO** (operator #2635 since 1983):

### About certification:

**L**ee took his first certification examination (Class 2C wastewater) in September of 1983 at the fall water school. His first memories of operator certification were related to all the reading and studying he had to do. It took him 6 months to get ready by studying 2 or 3 hours a night. When he got to the water school, Lee went to a SOS math class that was taught by Ray Wadsworth. Ray taught Lee something at that class that made everything clear: to go to the equations on the formula sheet and look for what the problem on the exam is asking for (gallons per minute or seconds per day) : look for that on the right side of the equal sign, then fill in numbers on other side of the equal sign to solve the problem. The math just clicked for Lee from that time on. Lee spent a lot of time studying for that exam, but that is what you have to do to pass the test, and he says, "I never want to have to take it again."

### About the Council:

Lee was first appointed to the Advisory Council in March of 1992. When Lee was contacted about being on the Council, he called Greg Acton to see what Greg's experience on the Council had been and if he would recommend it to Lee. Greg assured him that he would enjoy it so Lee said he would be interested, and "has enjoyed every minute of it."

### About operators:

"The quality of wastewater operators has really shot up over the last 10 to 20 years; they really know what they are doing. The wastewater industry has gotten a lot more respect, the operators are respected for what they do and they are beginning to be paid for it as well. There are a lot more organizations supporting wastewater operators; just as many as water did in the past. All operators should be proud since it is an important profession to be a part of."



## What are your Earliest Memories of Operator Certification

The present members of the Water and Wastewater Operators Advisory Council share their experiences on operator certification in Montana:

**BOB COTTOM (operator #1562 since 1976):**

**About certification:** *My remembrance of Wayne Young*

When I was a young fellow in the early 1950s, I went to Divide, Montana, and stayed at the Butte Water Company pump station with my relatives, the Tuttles, and that was where I met Wayne. He was one of the bosses of the Company. Every summer the Butte Water Company had a huge picnic with all the food, pop and beer you would ever want. There were games to be played, and that was where Wayne showed me how to cast with a spinning rod and I can still see that pole and reel.

In 1976, I went to work for the City of Dillon in the water department and in March of 1977 I went to Butte to take my water and wastewater exam. Low and behold there was Wayne Young giving the exam! Fourteen years later, following in Wayne's footsteps, I am now on the advisory council.

Bob Cottom

**MIKE HOLZWARTH (operator #1569 since 1977):**

**About certification:**

Mike took his first exam back in 1976 in Miles City while working as an electrician for Western Energy in Colstrip. In 1978 Colstrip installed the second oxidation ditch in the state. Dr. Sanks came down a number of times to help them set it up. Mike says he was quite a character to work with. He used his glasses like a magnifying glass; close wasn't good enough for him, it had to be exact.

Mike has seen lots of changes in Colstrip over the last 20 years in the type of system, population served and companies worked for. He has worked for three different companies but never changed jobs. The technology has also jumped leaps and bounds in the last couple of years.

The quality of the product (treated water) has changed tremendously over the years and the operators are much more conscientious about the whole operation of their systems as well as trying not to degrade the state waters.

**About the Council:**

Mike has been on the Advisory Council since 1990, and has been the chairman for the last several years. He feels that the most important thing that has been accomplished by the Council since he came on was the recent revision of the water exams and study materials.



## What are your Earliest Memories of Operator Certification

**JIM MELSTAD** (*DEQ Drinking Water section supervisor*):

**About certification:**

As you know by now, Congress included a mandatory operator certification requirement in the 1996 amendments to the Safe Drinking Water Act. We hope that our existing program will meet most or all of the requirements that will be established by EPA over the coming months.

However, representing your water supply as a certified operator is more than just a regulatory requirement. It is an opportunity to demonstrate your abilities, and to gain customer confidence and respect when problems arise. (Or, God help us, when water rate increases become necessary!) It is clear that the demands placed upon us in the water supply industry will increase significantly over the next 10 years. Please think of this as an opportunity. As a certified water operator, your skills will be more in demand than ever. If you enjoy water supply work, you are in the right place at the right time.

If you have suggestions on how the council can help you better meet future needs, please let us know anytime.

**CURT MYRAN** (*operator #2857 since 1985*):

**About certification:**

Curt found out about operator certification about 20 years ago when he was the foreman for the City of Miles City distribution system. He requested at the time to get certified, but his boss denied his request. He took his first exam in 1985 and his last just this spring. Curt feels that the study material provided now to study is much better than what they had in 1985. He remembers studying for his first exam for two months: "You had to study so much material without knowing what was important." He feels that the new study material is much better at telling people what is important to ensure good operator performance as well as to help pass the exam. The California State University Ken Kerri manual correspondence course helped Curt get such a good score on the last exam (Class 1A water distribution).

**About the Council:**

Curt feels that the Advisory Council is an excellent board for state of Montana and feels it provides all the groundwork for certification. He feels that it is a good balance point among all the different organizations with different viewpoints regarding operator certification across the state. In this way, more informed decisions are made by the Council and the certification office. Curt feels that the method that the certification office uses in working with the Council is excellent.



### **STEVE RUHD (operator #1695 since 1977):**

#### **About certification:**

**A**t the first operator job that Steve had back in 1977, his supervisor told him that "he would fail the test but go ahead and take it anyway" since he had failed it twice himself. Steve passed that Class 1C sewer exam. He then took the Class 1AB water exam the next year and passed it, too. He took both exams in Miles City. In those days the spring exam was given at the AWWA convention and the fall was taken at different places around the state. Steve flew to the second exam with Howard Smith of Poplar and Howard "dragged" Steve to a joint on the strip the night before the exam...but he passed it anyway.

Steve is very proud of and fondly displays his old certificate with a completed row of water drops at the bottom and his new certificate with a complete row at the top. He's pretty proud of them. These certificates symbolize 20 years of certification; two-thirds of the time that the operator certification program has been in business.

Steve feels that operator certification has enhanced professionalism among operators over the years. He has enjoyed talking to lots of different operators over the state over the years and has seen a major change in attitude. Another change has been the number of women involved in water and wastewater; only two women were at the first water school he went to and now there are more and more all the time.

#### **About the Council:**

The whole operator certification program has evolved considerably over the last 30 years and still is evolving because of new regulations and technologies. With the mix of operators, managers, educators, and regulators on the council, we hope to keep these changes from being too painful for everyone involved while still providing safe water for everyone.



"THE USED WATER NEWS"

*Published By*

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WATER POLLUTION CONTROL SECTION - MONTANA STATE BOARD OF HEALTH

September 1966

Frank Borchardt, Editor

Assisted By:

C. W. Brinck

John C. Spindler

Don Willems

Vol. I - No. 1



HI THERE!

I'm a newcomer to the water pollution control field in Montana. As you've probably already noticed, my name is "THE USED WATER NEWS" and my birthplace is the Water Pollution Control Section of the Montana State Board of Health, Division of Environmental Sanitation. I hope to be coming your way four times a year bringing you news of the wastewater treatment field in Montana. Naturally my foster parents will be composing or assembling much of the material you'll find herein; but, it is hoped that you too will be a contributor. Your suggestions for this newsletter and operating tips you might have for the benefit of your fellow wastewater treatment plant operators will be welcomed.

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#### OPERATOR CERTIFICATION

The subject of Operator Certification is not generally new, however, it is new and current in Montana. The most recent development is the result of the appointment of a permanent Operators Certification Committee by the Executive Committee of the Montana Section of American Water Works Association and Water Pollution Control Administration. This committee, appointed in 1965, was directed to proceed with drafting a law applicable to Montana including a determination of policy to be presented to the Montana Municipal League, classifying Water and Wastewater plants and Water Distribution systems, and setting up a system of grading personnel in responsible charge of works on a basis commensurate with the type of treatment required.

The certification program as proposed will

- (1) Improve the status of the operator
- (2) Improve the quality of Works operation
- (3) Provide a roster of qualified personnel
- (4) Provide a means of determining desirable qualifications for operating personnel
- (5) Provide greater protection of Public Health.

Today so much more is required of works systems, and consequently, of works operators. There is a demand from many sources to provide better drinking water and cleaner streams. With increasing Federal participation in the fields of water treatment and pollution control, the natural consequence is a need for better operation in order to secure Federal funds. The day is close when better operation will be demanded. The end result will benefit both operators and municipalities by helping to secure additional funds and providing a more efficient operation.

The Committee met several times and drafted a bill which was presented to the membership of the Joint Sections of Montana American Water Works Association and Water Pollution Control Administration at the Missoula meeting. The presentation generated much discussion and some excellent ideas. At the business meeting the members present voted unanimously for the Committee to rewrite the bill, incorporating some of the ideas



presented, and have it ready to present to the 1967 Legislature.

This bill is patterned after the Model Law as proposed by the Joint Committee of American Water Works Association, Conference of State Sanitary Engineers, and Water Pollution Control Federation. It appears quite obvious that it is only a question of time before this program becomes nation-wide. If and when such legislation is requested by the Federal Government, our Associations would be the logical ones to propose it, and we would certainly want to do so. In order to place Montana in step with the national trend, our bill follows in general the Model Law proposed by the Joint Committee of American Water Works Association, Conference of State Sanitary Engineers, and Water Pollution Control Federation.

If we are successful in securing a law requiring Operator Certification, steps will be taken to set up a more comprehensive course of study so that interested people can readily qualify for certification. Naturally, those already employed in responsible positions in our industry will be certified without examination. In other words, no one will be legislated out of a job. In the proposed bill, the Act will be administered by a Board of Certification composed of seven members, four of whom shall be from the operating force of Water and Wastewater Treatment.

The State controls many occupations and licenses many individuals holding jobs as of now that have much less influence on the public health than operators of Water and Wastewater treatment plants. This law should benefit all of Montana. If we are to be successful in securing its passage, it will require the work and support of all concerned. We will keep you posted on the status of the bill through this publication, and urge you to support it actively.

John Voelker, Committee Chairman

Committee Members

C. W. Brinck, Helena  
Frank Taylor, Billings  
Del Brick, Great Falls  
Leonard Oppenrud, Havre  
Robert Haverfield, Missoula  
George Malben, Helena  
Vernon Reed, Livingston  
Lowell Fisher, Great Falls  
Al Klingler, Shelby

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WATER POLLUTION CONTROL FEDERATION

If you are not already a member of the Water Pollution Control Federation, how about joining? Active membership is \$12.00 and corporate membership is \$30.00 per year. The membership includes the monthly publication, "Journal Water Pollution Control Federation." Application forms can be obtained by writing to Art Clarkson, Secretary-Treasurer, Water Pollution Control Federation, c/o State Board of Health, Helena.



#### ANNUAL WATER AND SEWAGE WORKS OPERATORS SCHOOL

Plan now to attend. The tentative dates for this year are November 16, 17, 18, 1966. Bozeman is the place.

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#### RECENT FEDERAL WATER POLLUTION CONTROL LEGISLATION

What's the story on the new Federal water pollution control legislation? How does it affect the State, city, or plant operator? First affects will be felt by the State. Included in the new legislation was the requirement that the states adopt water quality criteria applicable to Interstate waters or portions thereof within the State before June 30, 1967, or else the Federal government would set the standards for them. Practically all of our streams and lakes in the State are interstate waters.

Our 1955 State legislature had the foresight to pass our present water pollution law. This law established a seven-member State Water Pollution Council whose duties, in part, were to develop and adopt a comprehensive program for the prevention, control, and abatement of water pollution. The program developed by the Council has included the classification of the streams of the State and the adoption of water quality objectives and minimum treatment requirements for the various classifications. The State Board of Health is the administrative agency for the program. Montana is one of the few states in the nation with its stream standards developed. We do not know at this time whether the Water Pollution Control Council will want to make any changes to these standards before submitting them to the Federal government.

Where the State's standards are not met, the Federal government can take enforcement action against the cities or industries causing pollution. At this time, we do not contemplate any Federal enforcement action in Montana.

Your plant, if it received a Federal grant for construction, periodically may be visited by a Federal water pollution control engineer. Unless your plant is causing pollution, we believe that these visits will be only for data collection.

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#### MECHANICAL WASTEWATER TREATMENT PLANTS IN MONTANA

<u>Municipality</u>	<u>Plant Superintendent</u>	<u>Treatment</u>
Billings	John Voelker	P + Cl <sub>2</sub> + SSD
Bozeman	Carl Larson	P + Cl <sub>2</sub> + SSD
Canyon Ferry	F. K. Dolan	IT + TF
Chinook	Carl King	Cg + TF + Cl <sub>2</sub>
Dutton	James Nolan	PAS + SSD
Enkalaka	C. M. Parrish	PAS + SSD
Enreke	H. C. Mathis	Cg + Cl <sub>2</sub>
Galen	Chuck Ternes	PAS + SSD
Great Falls	Lowell Fisher	P + Cl <sub>2</sub> + SSD
Hamilton	Emil Kleman	P + Cl <sub>2</sub> + SSD + Lag
Harlem	Clifford Mumney	PAS + SSD
Havre	Leonard Oppenud	P + Cl <sub>2</sub> + SSD
Helena	Richard Brown	P + Cl <sub>2</sub> + SSD



### Municipality - Continued

Hot Springs		PAS + SSD
Kalispell	Elmer Billsborough	P + Cl <sub>2</sub> + SSD
Laurel	Dewey Nunn	P + Cl <sub>2</sub> + SSD
Lake McDonald		P + TF + Cl <sub>2</sub>
Lewistown	Walter Wright	P + Cl <sub>2</sub> + SSD
Livingston	Russ Krinke	P + Cl <sub>2</sub> + SSD
Missoula	Robert Haverfield	P + Cl <sub>2</sub> + SSD

### Government

Lewistown AFB	Lloyd Wright	Cg + TF + Cl <sub>2</sub> + SSD
Malmstrom AFB	Robert Tietjan	IT + Cl <sub>2</sub>
Yellowtail Dam		PAS
Hungry Horse Tour Center	E. B. Myhre	PAS

### Industrial

ACM @ Bonner	Melvin Madsen	Cg + TF
ACM @ Columbia Falls	A. W. Hook	AS + SSD
St. Regis @ Libby	Bob Burdick	P + TF + SSD
Montana Power Co. @ Hauser Dam	Wally Kocklar	PAS
Ideal Cement Co. @ Trident		
CONOCO @ Billings	Howard Anderson	AS + Lag
F.U.C.E. @ Laurel	C. A. Cromwell	Cp + Lag
Humble Oil @ Billings	R. W. Burns	AS + Lag

P - Primary Treatment  
Cl<sub>2</sub> - Chlorination  
SSD - Separate Sludge Digestion  
AS - Activated Sludge  
Cg - Clarifier-Digester

IT - Imhoff Tank  
TF - Trickling Filter  
PAS - Packaged Activated Sludge  
Lag - Lagoons  
Cp - Chemical Precipitation

Primary distribution of THE USED WATER NEWS is to those individuals listed above. If additional copies are desired, they may be obtained by request from the State Board of Health. Please furnish names and addresses for the additional copies.

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### OPERATOR'S CORNER

This section of THE USED WATER NEWS will be reserved for reader participation. It is hoped that you will send in tips and suggestions which have worked for you in solving tricky operation problems. In addition, we will periodically carry reprints from national trade magazines or journals which many of our readers may not have access to.



# Big Sky CLEARWATER

OFFICIAL BULLETIN

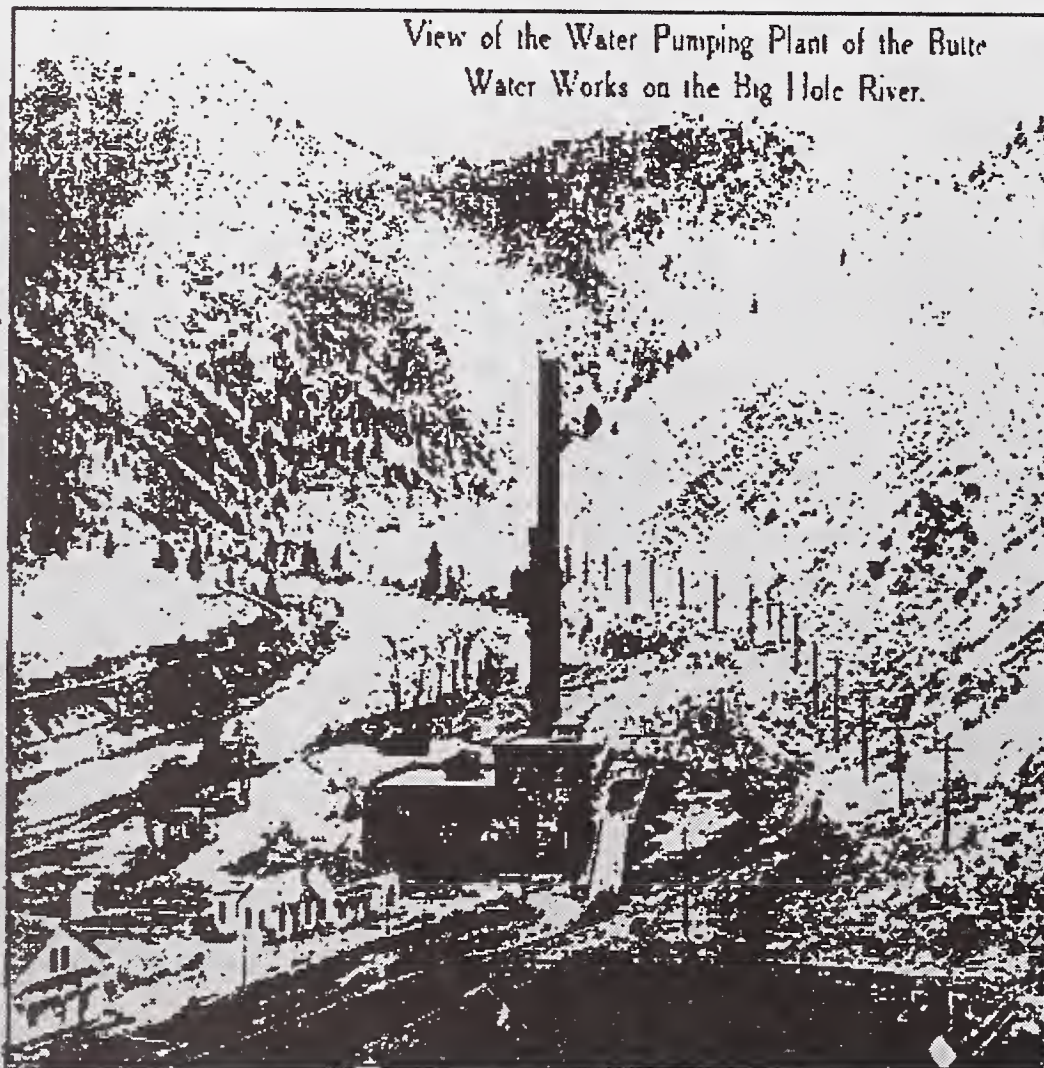
MSAWWA MWPCA CONFERENCE

Volume II

March, 1972

No. 1

View of the Water Pumping Plant of the Butte  
Water Works on the Big Hole River.



MONSTER M.S.P. - See Pages 5 & 10

CONVENTION - BUTTE - - - APRIL 5-6-7



WATER SCHOOL -- 1971  
R. L. Sanks

The 38th Annual School for Water and Wastewater Operators and Managers was held November 15 to 19, 1971, at Montana State University. The Annual School is sponsored by the Department of Civil Engineering and Engineering Mechanics, the Division of Environmental Sciences of the State Department of Health, Montana Section American Water Works Association, and the Montana Water Pollution Control Association. The School was attended by 90 participants, each of whom paid a registration fee of \$35 and a staff consisting of 28 state and out-of-state speakers. Dr. Glen L. Martin, Head, Department of Civil Engineering and Engineering Mechanics, welcomed the beginning operators on Monday. Dr. Kenneth Goering, Dean, College of Graduate Studies, welcomed the advanced operators on Tuesday, and Mr. Carl Lauterjung, Kalispell, gave the response. The remainder of the staff consisted of the following professors from Montana State University: Dr. Eldon Dodge, Dr. Adrien Hess, Dr. William Hunt, Dr. Jesse Lair, Dr. Robert Sanks, and Professor Theodore Williams. For the first time a graduate student in the Department of Civil Engineering, Mr. Owen Boe, participated as a speaker. Speakers from the Division of Environmental Sciences, State Board of Health, included Messrs.: Rollin Adams, Wilbur Aikin, Claiborne W. Brinck, Arthur Clarkson, Alf J. Hultang, Kenneth Johnston, David Nunnally, Donald G. Willems, and Donald Zollman. Other participants from Montana were Ralph Compton, John Daly, Wayne Dean, Carl Lauterjung, Duane Madsen, David McCullough, and Roger Pierce. Out-of-state staff included Mr. Gerald P. Calkins (Washington State Water Pollution Control Council, Olympia), Mr. Donald Doud (Permasep Products, DuPont Company, Wilmington, Delaware), Dr. Alfred Wallace (Professor, College of Engineering, University of Idaho, Moscow, Idaho), and Dr. Joseph Neel (Professor, Department Biology, University of North Dakota, Grand Forks, North Dakota).

The operators were separated into beginners and advanced for the first two days of mathematics. Thereafter they were usually separated into water operators and wastewater operators. At some

of the sessions, particularly those headed by out-of-state speakers, joint sessions were held.

The 40 old-timers felt the sessions were adequate to excellent. Many of the 50 newcomers think the Water School should be geared directly to passing the examination. Apparently, they have the strong feeling that a person coming to the School should more or less automatically pass the examination. As conceived by Dean Cobleigh, the intent of the school carried forward from that date to this, has been to teach the operator how to do a better job. The use of the School as an easy path to registration has so far been vigorously resisted.

Most of the criticisms received were favorable. Most of the operators would prefer the sessions to be more practical -- that is, to show them how to do their jobs better, perhaps with more participation by the operators in laboratory practice, etc. Helpful suggestions on how this might be accomplished would be welcomed by the directors. As the School continues to get larger year by year, the idea of participation in laboratory exercises seems to grow ever more remote.

\*\*\*\*\*

(Letter from Bob Haverfield, Superintendent  
Sewer Facilities Department, Missoula)

"Hi, Editor:

We are selling and disposing our liquid anaerobic sludge via a 3,000 gallon tank truck.

The other day, I received a repeat sales order from one of our customers stating that he wanted several loads of what he called 'ecstasy sauce' ...

How about that? Hang in there, operators; sometimes we are appreciated.

I might add, the people over here in the Missoula Valley are going bananas over our sauce."

Big Sky Clearwater

Vol. III, No. 2 May, 1977

Vol. II, No. 1 March, 1972  
Big Sky Clearwater



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SIXTEEN YEARS AGO

by Ken Johnston

While cleaning out old papers and junk, I came across an article in a national women's magazine dated 1960 that caused me to stop and reflect upon the progress that has been made in water resource protection since the article was written in 1960.

The author pointed out the dangers of rapidly increasing pollution of the nation's waters in a very graphic manner. "We think that the water we draw from our tap is pure," he says, "but don't take it for granted!"

The city of Rensselaer, New York, was telling customers that "...city water in Rensselaer is so polluted that it is dangerous for human consumption." The bacterial count in their water had soared. In Salt Lake City, cases of hepatitis had increased to three times the previous year's level, and water supplies were suspect. A Denver suburb was complaining that their water was milky and smelled like a swamp because six other communities were dumping raw sewage into the creek that supplied them. In Colorado and New Mexico radioactivity of water supplies ranged from 40% to 160% above maximum permissible levels from uranium milling wastes discharged into the Animas River.

In case after case, the results of increasing population and industrial activity were shown to be causing water supply pollution problems. A spectacular sudsy water in Chanute, Kansas was due to the buildup of "hard" detergents, and a glass of Chanute water had a head on it like a mug of Budweiser! Detergent problems were widespread across the nation.

Sixteen years ago, people were worried about the effect of pesticides. DDT, DLD, chlordane, aldrin, and other powerful pesticides were uncontrolled and the usage had quadrupled in only four years. "What is the cumulative impact of these chemicals, singly or in combination, on the human beings that drink them?" was being asked by the Public Health Service.

Many communities were still dumping enormous tonnages of disease-carrying sewage, raw and untreated, into the water sources of their downstream neighbors. As I recall, 16 years ago Great Falls was just completing their primary plant to take their raw sewage out of the Missouri. Kansas City was dumping raw sewage into the Missouri which was a major concern of officials in St. Louis, but St. Louis was dumping raw sewage and ground garbage into the Mississippi causing problems to cities below them.

Packing plants at Sioux City were dumping wastes into the Missouri River which caused gassing sludge banks, and offensive odors drifted from the river.

Sounds horrible? It sure does, and it makes one think about what would have happened if the great clean-up effort, of which we are all a part, had not taken place. What would the waters of this nation look and smell like if the massive pollution control programs, such as the National Pollutant Discharge Elimination System, had not been put into operation?

Sometimes we cuss the system, sometimes it may seem like "Big Brother" is looking over our shoulder and dictating to us, but when one reflects back into the conditions that were developing a few years ago, the cure doesn't seem all that bad. Water quality is improving. Industrial wastes are nearly under control, sewage has been primary treated for some time now, and secondary treatment for all domestic waste is nearing that goal.

Sixteen years ago, under Public Law 660, a city could get federal assistance to construct sewage facilities up to 30 percent, or a maximum of \$250,000.

As the women's cigarette advertisement says, "You've come a long way, baby!"

And that's the way it was, sixteen years ago.



# Applicants Passing Examinations for Full Certification or Operator-in-Training (OT) MRWS 1997 & Spring 1997

<u>NAME</u>	<u>CITY</u>	<u>CLASS 1's</u>
ALCORN, Perry	Havre (NMC)	1Bot
BLATTER, Patrick	Great Falls	1Bot
BRADLEY, Richard	Billings	1B
BROWN, Gregory	Billings	1D
CARLSON, Karl J.	Havre (NMC)	1Bot
FLADLAND, Jason	Havre (NMC)	1Bot
HARDINGER, Dail	Great Falls	1A
HAUGEN, Jeffrey	Havre (NMC)	1Bot, 1Cot
LEAR, Paul	Gardiner	1Bot, 1Cot
ROARK, Brian	Havre (NMC)	1Aot, 1Bot
SOLUM, Wayne	Poplar	1B
WEBER, Jayson	Havre (NMC)	1Cot

<u>NAME</u>	<u>CITY</u>	<u>CLASS 2's</u>
ALCORN, Perry	Havre (NMC)	2Cot
CARTER, Ralph	Hungry Horse	2Cot
FELLER, Rodney	Hardin	2Cot
JENKINS, Grady	Columbia Falls	2Cot

<u>NAME</u>	<u>CITY</u>	<u>CLASS 3's</u>
BARRERE, Brice	Ekalaka	3A4B
BRADEN, Brad	Wibaux	3C
BRAIDEDHAIR, Martin	N Cheyenne	3A
CHARLTON, Harold	Roundup	3C
CRISP, Ken	Missoula	3A
CUMMINGS, Michael	Sidney	3Cot
JUDD, Troy	Great Falls	3A4Bot
KNIGHT, Rex	Wibaux	3C
LACY, Jerry	T. Falls	3A
LITTELL, William	Big Timber	3A4B
MCDADE, Benjamin	Eureka	3C
MCKINZIE, Michael	Troy	3C
RUGG, Korey	St. Regis	3A4B
SUND, Forrest	T. Falls	3A
VANDERHOEF, Scott	W. Yellowstone	3A4B, 3C
WENDELL, Walter	Great Falls	3A4Bot
WHITTENBURG, Kevin	T. Falls	3A
WILLSON, Beverly	Ekalaka	3C

<u>NAME</u>	<u>CITY</u>	<u>CLASS 4's</u>
ADRIAN, Delano	Bigfork	4ABot
ALLEN, Lloyd	Augusta	4C
ASTON, Jeffrey	Great Falls	4A
BRAIDEDHAIR, Martin	N. Cheyenne	4Bot
BRECKENRIDGE, Tracy	Dutton	4Cot
BRUNTY, David	Whitefish	4AB
BURTCHETT, James	Geraldine	4AB
BUTTERFLY, Rodrick	Browning	4AB
BYRNE, Tom J.	Roy	4AB, 4C
CARPENTER, Ivan	Ronan	4ABot
CUMMINGS, Michael	Sidney	4C
DUDLEY, Wayne	Missoula	4Aot
FITZGERALD, Thomas	Great Falls	4AB
FRANKS, Robert	Whitefish	4AB
HESTER, Curtis	Great Falls	4A, 4Bot
HOLMES, Russell	Great Falls	4A, 4Bot, 4C
JACOBSEN, Ronald	Ashland	4Cot
JOHNSON, Homer	Kalispell	4ABot
KELLER, Jeffrey	Huson	4AB
LANGEL, Bill	Iverson	4C
MONGAR, George	Judith Gap	4AB
MORITZ, William	Shelby	4C
MURDOCK, Rebecca	Missoula	4AB
PUSHARD, Gerald	Ramsay	4C
RAUSER, Timothy	Townsend	4C
RIGGS, Kitty	Belle Creek	4Cot
ROUSHER, David	Bozeman	4AB
SALACINSKI, Daniel	Lavina	4C
SEYMOUR, Joe	Ramsay	4C
TONER, Jerry	Gildford	4C
VOTAPKA, Frank	Libby	4AB
WAITE, Robert	Moore	4ABot
WEINMEISTER, David	Nashua	4C

<u>CLASS</u>	<u>CITY</u>	<u>CLASS 5's</u>
DAVIS, Larry	Troy	5AB
FERREE, Douglas	Kalispell	5AB
GOLDSBY, Richard	Missoula	5AB
GRASSER, Scott	Kalispell	5AB
JINGST, Dennis	Whitefish	5AB
MOLLETT, Kathy	Billings	5AB
POYNOR, Patrick	Shepherd	5AB
RIGGS, Kitty	Belle Creek	5AB
THOMAS, Charles	Missoula	5AB

**Congratulations!**

To all of the above operators who passed their examinations at the MRWS Conference and in the spring of 1997. The examinations for certification require considerable time in study and preparation. Passing the examination represents a lot of hard work and initiative on the part of the individual. Be sure to show your appreciation to your water and wastewater operators for working hard to ensure that they are properly trained to care for your system!



# Applicants Passing Examinations for Full Certification or Operator-in-Training (OT) 1996 Summer & Fall Water Schools

<u>NAME</u>	<u>CITY</u>	<u>CLASS 1's</u>
BROSZ, Catherine	Bozeman	1Aot
CLEMENTS, Clint	Butte	1Aot
GIESER, Bernard	Billings	1D
GREY BULL, Raymond	Billings	1Bot
HARRISON, Brian	Billings	1D
HOTZEL, Roger	Bozeman	1Aot
KURK, Jackson	Bozeman	1C
McMANN, Alexander	Havre (NMC)	1Bot, 1Cot
MAVITY, Monte	Billings	1Cot
MOECKEL, William	Bozeman	1Aot
ROUNS, Dan	Brady	1B
SKOGEN, Roger	Valier	1Cot
WEAMER, J. Scott	Bozeman	1C
WEAST, Mary	Red Lodge	1Bot

<u>NAME</u>	<u>CITY</u>	<u>CLASS 2's</u>
ALLEN, Ken	Willow Creek	2Cot
DOMKE, Doug	Livingston	2A3Bot
HOAG, James	Bozeman	2Cot
PITZEN, Michael	Bigfork	2Aot, 2Bot

<u>NAME</u>	<u>CITY</u>	<u>CLASS 3's</u>
AUGARE, Steve	E. Glacier	3Cot
CHAPMAN, Gary	Helena	3Cot
CLARK, John	Winnett	3Cot
CONWAY, Michael	Columbus	3A4B
FRIEDE, Norman	Victor	3Cot
KLEIN, Johnny	Broadus	3A4Bot
MacDONALD, Waldo	Cascade	3A4Bot
McDADE, Benjamin	Eureka	3A4B
MICHALSKY, Lee	Butte	3Cot
RAUSER, Tim	Townsend	3A4Bot
RUNNING, Loren	Sunburst	3A4Bot
SANDCRANE, Alec	Lame Deer	3A4Bot
SKORNOGOSKI, Joseph	Havre	3Cot
THRELKELD, Terry	Big Sky	3C
WEST, Travis	Glasgow	3Cot
WENDELL, Walter	Great Falls	3A4Bot

<u>NAME</u>	<u>CITY</u>	<u>CLASS 4's</u>
ANSTEAD, Max	Columbia Falls	4ABot
BRECKENRIDGE, Tracy	Dutton	4ABot
CLARK, John	Winnett	4ABot
DOUGHERTY, Patrick	Three Forks	4AB
GAMBRILL, Peter	Bozeman	4AB
HENSEL, Brian	Missoula	4ABot
JONAS, DeAnne	Billings	4AB
KEHOE, Kelly	Coram	4ABot
KINDNESS, Lawrence	Fort Smith	4AB
KROPP, Michael	Troy	4Cot
MacDONALD, Waldo	Cascade	4Cot
McDONALD, Gary	Kalispell	4C
PRATHER, Lloyd	Red Lodge	4ABot, 4Cot
RASMUSSEN, Larry	Great Falls	4AB
REYNOLDS, Leslie	Bozeman	4AB
ROUNS, Dan	Brady	4A, 4C
SHACKLEFORD, Rob	Bozeman	4ABot
STEVENSON, James	Ashland	4ABot
YOUNGMAN, Leonard	Fort Peck	4C

<u>NAME</u>	<u>CITY</u>	<u>CLASS 5's</u>
AKTEPY, Paul	Noxon	5AB
BURKHOLDER, Terry	Missoula	5AB
HARTKE, Robert	Bigfork	5AB
JAMES, Marj	Whitefish	5AB
KROPP, Michael	Troy	5AB
LERUM, David	Galata	5AB
LERUM, Dean	Galata	5AB
LIECHTI, Mark	Kalispell	5AB
MORGEAU, Russell	Polson	5AB
SIDDERS, Larry	Belgrade	5AB
STAHL, John, Jr.	Ayers Colony	5AB
STROM, Odin	Polson	5AB
WIEDER, Russ	Arlee	5AB
WURTZ, John	Sage Creek	5AB

***Congratulations!***

To all of the above operators who passed their examinations at the summer and fall water schools of 1996. The examinations for certification require considerable time in study and preparation. Passing the examination represents a lot of hard work and initiative on the part of the individual. Be sure to show your appreciation to your water and wastewater operators for working hard to ensure that they are properly trained to care for your system!



# Don't Forget!

## Spring Water & Wastewater Exams will be held in Seven Locations March 1998

To receive application information, please either call the *Certification Office* at (406) 444-2691, or return the bottom half of this sheet to:

Water & Wastewater Operator Certification  
Department of Environmental Quality  
Community Services Bureau  
P.O. Box 200901  
Helena, MT 59620-0901



### Water & Wastewater Operator Certification

Please send me information on the following exam:

- |                                    |                                      |                                   |                                 |
|------------------------------------|--------------------------------------|-----------------------------------|---------------------------------|
| <input type="checkbox"/> Billings  | <input type="checkbox"/> Great Falls | <input type="checkbox"/> Havre    | <input type="checkbox"/> Helena |
| <input type="checkbox"/> Kalispell | <input type="checkbox"/> Miles City  | <input type="checkbox"/> Missoula |                                 |

A - Water distribution

B - Water treatment

C - Wastewater treatment

1	2	3	4	5
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—

Name: \_\_\_\_\_ Operator #: \_\_\_\_\_

System Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City/ State/ Zip: \_\_\_\_\_

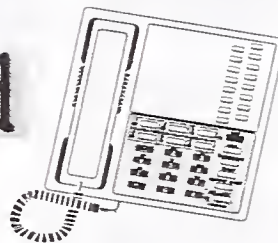


# Department of Environmental Quality

P. O. Box 200901

Helena, MT 59620-0901

Frequently called



Numbers

**MARK SIMONICH, DIRECTOR**

**444-2544**

**FAX 444-4386**

**PERMITTING & COMPLIANCE DIVISION**

**444-4323**

**FAX 444-1374**

**Jan Sensibaugh, Division Administrator**

**444-5270**

**Community Services Bureau**

**Jon Dillard, Bureau Chief**

**444-2409**

**Operator Certification Office**

**Shirley Quick**

**444-2691**

**Support Staff**

**444-3434**

**Public Water Supply**

**Jim Melstad**

**444-5315**

Name	Phone # 444	Surface Water Ttmt	Training	Lead & Copper Rule	Phase II & V Rule	Eng Plan Review	Total Coliform Rule	GWU DISW*	Bacti Results
Marc Golz	4071	X	X				X	X	
Mark Smith	5311					X	X		
John Camden	4019	X					X		
Terry Campbell	5312	X				X	X	X	
Rick Cottingham	4769	X	X				X		
Sandi Ewing	5314								X
Richard Knatterud	4114			X		X	X		
Craig Pagel	5313				X	X	X		
Gary Wiens	5318				X	X	X		

*\*Groundwater under the direct influence of surface water.*

**Water Protection Bureau**

**Bonnie Lovelace, Bureau Chief**

**444-4969**

**Discharge Permits**

**Fred Shewman**

**444-5329**

**Sam Martinez**

**444-0917**

**Mike Pasichnyk**

**444-5326**

**Joe Strasko**

**444-2783**

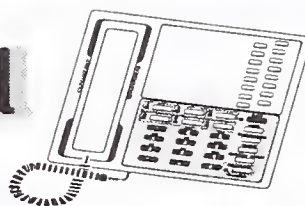
**Greg Wermers**

**444-0916**



# Department of Environmental Quality

Frequently called



Numbers

<b>PLANNING, PREVENTION &amp; ASSISTANCE DIVISION</b>					<b>444-6697</b>	<b>FAX 444-6836</b>		
<b>Van Jamison, Division Administrator</b>					<b>444-6754</b>			
<b>Technical &amp; Financial Assistance Bureau</b>								
<b>Tom Livers, Bureau Chief</b>					<b>444-6776</b>			
<b>Water Pollution Control and Drinking Water SRF</b>								
Name	Phone # 444-	Training & Operation Problems	SRF Wastewater Loans	Facility Plans	SRF Drinking Water Loans	Eng Plan Review	WWTP Inspections & CPEs	WWTP Effluent Spray Irrigation
Bill Bahr	5337	X					X	
Paul Lavigne	5321		X	X	X	X		
Frank Little	5341		X	X		X		
Tom Slovarp	5323		X	X		X		
Todd Teegarden	5324		X	X		X		X
<b>Pollution Prevention Bureau</b>								
<b>Louise Moore, Bureau Chief</b>					<b>444-6749</b>			
<b>Carole Mackin Local Water Quality Districts</b>					<b>444-5492</b>			
<b>Joe Meek</b>	<b>Source Water Protection &amp; Wellhead Protection</b>				<b>444-4806</b>			



*Call*

**Shirley Quick (444-2691) or Support Staff (444-3434)**

*with any*

**Operator Certification Questions**



# Reflections in the Ripples

*By Bill Bahr, Editor*

## Lagoon Operations



In Montana this year, the cool, wet spring weather presented operators of wastewater treatment lagoons with some troublesome odors among other operational problems. Wet weather has increased flows in many wastewater facilities and caused some flooding problems in the rivers into which the plants discharge. Most plants are located near those rivers, so the high river levels can threaten the ability of the plants to adequately treat the wastewater. We are fortunate that there have been no documented instances of untreated wastewater reaching state waters. The odor problems, especially for aerated lagoons, have been prevalent, however.

Aerated lagoons seem to be particularly susceptible to odor issues during this type of weather pattern for a variety of reasons. Aerated lagoons are designed for far shorter detention times than are facultative lagoons. Aerated lagoons have additional mechanical mixing and aeration intended to improve their capacity to treat wastewater. Volume and surface area requirements of aerated systems are reduced compared to facultative systems. In spite of the additional aeration and mixing energy, algae must be present in sufficient quantities in aerated lagoons to supply enough dissolved oxygen for bacteria to stabilize the pollutants in the wastewater.

The weather this year limited algal growth because of the lack of bright sunshine and warm days. Facultative lagoons seem to have fewer problems with continuing odor problems following the turnover after winter breaks. The much larger volume in facultative pond systems probably dilutes the influent somewhat so raw sewage smells do not concentrate and persist. Additionally, healthy oxygen-producing algae are dispersed throughout this larger volume. Once spring turnover subsides, and the solids layer has

settled, most pond systems grow a healthy population of algae, giving the ponds a greenish color. Odors are generally not noticeable in lagoon systems that have dissolved oxygen levels above two parts per million throughout the surface aerobic pond layer. Most healthy lagoon systems have dissolved oxygen levels much higher than two parts per million.

Aerated systems do not have the luxury of this larger volume. Often the aerators are located in a pattern designed for treatment under normal conditions. This pattern does not allow for concentrated application of aeration at or near the influent to the first cell. During winter months, bacterial activity drops to such low levels that the organic load to the system is essentially stored in the lagoon all winter, rather than stabilized. When spring turnover arrives with the warming weather, the lagoon system has to deal with the untreated, stored winter load as well as the daily influent from the community. This creates problems when the algae levels do not increase due to cold overcast weather. Since aerated lagoons have less volume available to treat raw wastewater and the source of dissolved oxygen from algae is inhibited, odors related to raw sewage and stored, septic, untreated wastewater will be present. These odors tend to persist until the organic load from these two sources is stabilized as indicated by increasing dissolved oxygen levels.

Operational options are available to the operator, however. Parallel loading to several cells will allow the influent area of the first cell to recover. Some systems this spring successfully offloaded the first cell to accomplish this. Odors diminished fairly rapidly and some system operators were pleased to discover that they had this flexibility in their plant flow schemes. Another option, though less effective, is to recycle treated wastewater from the effluent end of the system to the influent. This strategy dilutes the influent with non-odorous wastewater, providing healthy algae and extra



dissolved oxygen, to the area of the system that needs it most. Running the aeration system at maximum application rates, 24 hours a day, and focusing the aeration at the headworks, if the system can be so maneuvered, is also fairly effective in establishing a healthy algae population in the first cell. Overall, the most effective operational strategy is probably a combination of these options, if available. The parallel loading operation seems to work the best, especially with some of the other operational tools, like recycle.

### Total Maximum Daily Loads

**T**he Department of Environmental Quality is charged with the responsibility of establishing total maximum daily load (TMDL) levels for the various watersheds in Montana. Of primary concern for municipal wastewater facilities will be the total maximum daily load of the nutrients, nitrogen and phosphorous, for the waterway they discharge to. The various sources of pollution in the watersheds will be assigned a portion of the TMDL, and then will have to stay within the limits established. This is a process that requires staffing and budgets that DEQ has lacked. The tasks were not completed even though completion was a requirement under the federal Clean Water Act. The 1997 legislature acted to provide the necessary resources for DEQ to complete these determinations. DEQ already has targeted the most seriously impacted waterways, such as the Flathead and Clark Fork drainages. Using a ban on phosphorous cleaning products and prescribing phosphorous removal from wastewater plant discharges have proven effective strategies in reducing nutrient loading to Flathead Lake.

The TMDL process will determine what pollutant load levels can be assimilated in impaired watersheds in Montana. This process may have impacts on state wastewater treatment plants. Obviously, the most impacted waterways will continue to be addressed first. Not only has DEQ worked to establish the TMDL in the Flathead

drainage, but has been instrumental in developing the voluntary TMDL program in the Clark Fork drainage. The legislative mandate will allow us to complete the process here in Montana. MPDES permit renewals for discharging municipal wastewater treatment plants already have reporting requirements related to non-degradation limits. You will have noticed that these values are assigned based on plant design as of April, 1993. Facilities are required to report annual load limits in pounds per day for nitrogen and phosphorous, so this is not new to plant operators. As this process unfolds, however, the TMDLs may require plants to meet more stringent discharge levels. The process will be facilitated by various means, including public hearings. Operators will be responsible for providing needed information during this process and may wish to share their concerns with DEQ during the TMDL process.

### Two Exceptional Training Opportunities Approach

**Y**ellow Bay, August 26-28: METC has contracted with Ron Schuyler (formerly of Region VIII EPA office in Denver and currently with RTW Engineering in Colorado) to provide advanced wastewater training on nutrient removal options for wastewater treatment facilities at the annual Yellow Bay workshop at the end of August. Mr. Schuyler is an expert of national renown in wastewater treatment. He has been a featured speaker at Water Environment Federation (WEF) conferences. A complete listing of his accomplishments and discussion of his talents is beyond the scope of this publication, so let this brief notice be sufficient to encourage the attendance of operators, managers and engineers seeking enlightenment about nutrient removal from wastewater treatment plant discharges. As always, the University of Montana biological research station at Yellow Bay is an excellent venue for this advanced series on wastewater treatment. See you there!

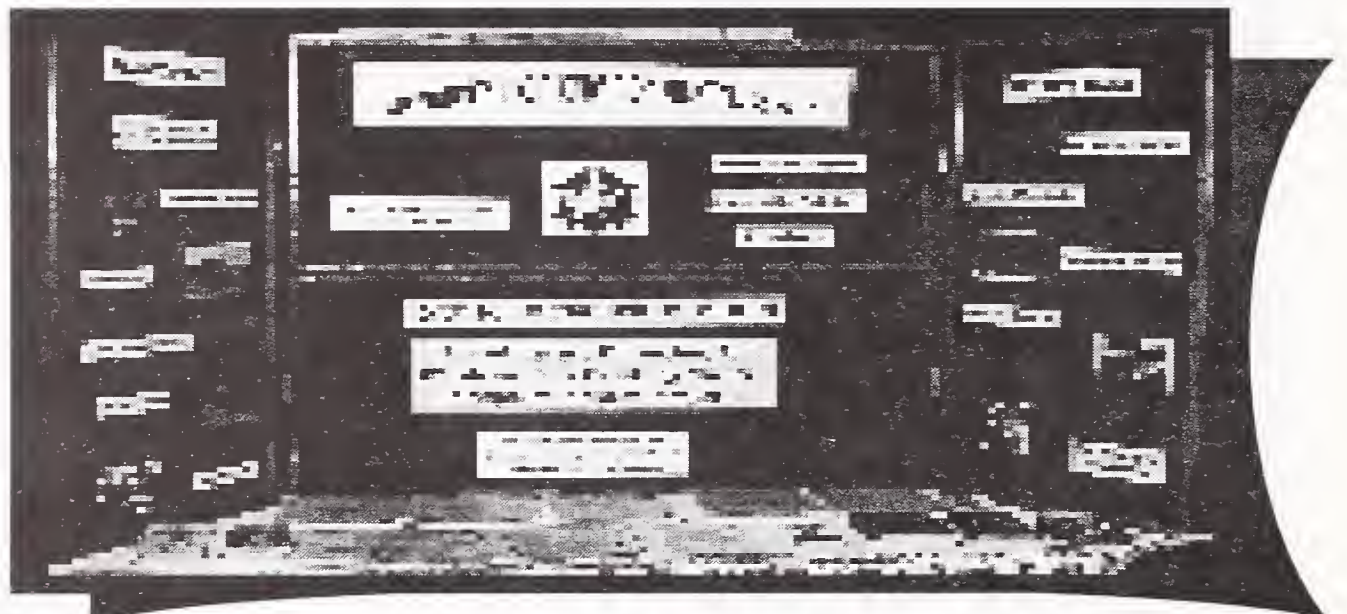


**Fall Operators' School, September 22-26:** Dr. Martha Dow, provost at Oregon Institute of Technology and formerly the vice president at Northern Montana College, is returning to present two sessions at the fall water school in Bozeman in September. Dr. Dow has been a featured presenter at WEF conferences through the years and will dazzle us with a day-long workshop on wastewater treatment microbiology and troubleshooting. She is also featured as a keynote speaker during the opening portion of the school when we are celebrating 30 years of operator certification in Montana. Dr. Dow was instrumental in establishing the operator training program at Northern and has been an active supporter of continuing education opportunities for operators. METC was, in large part, born from the seemingly inexhaustible efforts of this distinguished professional. Most of us in the water and wastewater field are truly fortunate to have felt Dr. Dow's influence in our careers.

### The New Drinking Water State Revolving Fund Program

**P**ublic infrastructure projects are without doubt some of the most expensive and technically demanding issues facing communities. In the 25 years since the Clean Water Act was passed, millions of dollars have been spent to build wastewater treatment plants in Montana through both the Construction Grants program and the Clean Water State Revolving Fund (SRF) program. The 1996 Safe Drinking Water Act Amendments provides for state and federal funding for public water

supply projects. Communities throughout the state can now get help with planning, financing and building the water treatment systems they need to provide safe drinking water for their citizens through the Department of Environmental Quality. The Drinking Water SRF program was authorized by the 1997 Montana Legislature and funded by a federal grant matched by state bond sales. The program helps communities by providing low-interest loans for projects, with the loan repayment funds recycling through the SRF pool of money for other projects and other communities. The goal, obviously, is to provide a stable long-term source of funding for needed water and wastewater projects.



*SRF Program display at the MWEA/MSAWWA joint conference in West Yellowstone, May 7-9, 1997*

Workshops about how the SRF program works and how to get from needing infrastructure improvements to successful completion of the project are tentatively scheduled for later this fall and early in 1998. Discussion of the new DWSRF will also be included in the fall operators' school in Bozeman and the joint annual conference of MWEA/MSAWWA in Kalispell in May of 1998. The DEQ/SRF program is part of the Technical and Financial Assistance Bureau. If you would like more information about the program, please contact Tom Livers, TFAB supervisor, at (406)444-6776, or Barb Neuwerth at (406)444-5322.

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# **64th** Annual Water School for Water & Wastewater Operators & Managers

September 22-25, 1997  
Strand Union Building  
Montana State University - Bozeman

*Conducted by*

Montana Department of Environmental Quality  
Montana Environmental Training Center  
Montana State University - Bozeman  
*Montana University System Water Center-Civil Engineering Department*



he 64th Annual Fall Water School will be held in Bozeman on September 22-25, 1997 at Montana State University - Bozeman.

Two to four tracks will be run concurrently for water and wastewater system operators. It will be the individual operator's choice to select classes that relate to their particular professional or system needs. Some courses will be offered in joint session as they are applicable to all systems.

Water and wastewater examinations will be administered separately by the DEQ Certification Office on Friday, September 26, 1997.

## **Registration**



egistration begins at 7:30 a.m., Monday, September 22 in the Strand Union Building (SUB), outside Ballroom B.

## **New Parking Regulations**



ll conference participants are now required to have a permit to park on campus. All water school participants who preregister will receive a confirmation letter prior to the conference with a hanging parking permit enclosed and a map





showing you where to park. To avoid being ticketed display the sticker and park in the designated area. Visitor cars without tags are subject to being towed. Any lost tags will have to be replaced by the participant for a \$3.00 fee.



### Interactive Training Workshop for Small Water System Operators

#### (SESSION I) Interactive Operator Training

- ◆ Learn what is available on the World Wide Web and how it can help you
- ◆ Access training manuals and study guides in CD-ROM format also
- ◆ Test your knowledge with interactive quizzes

#### (SESSION II) A Multimedia Approach to Wellhead Protection

- ◆ Learn how to develop a wellhead protection plan for your public water supply system (a complex process simplified with integration of video, sound, illustrations, and a fill-in template)



**Free CD-ROM for the first 24 people to preregister for either session!**

**\*\*Enrollment limited\*\***

### Basic Track Training for New Operators

**T**he "Basic Track" will be given again at this school. The basic track is designed for entry level operators who plan on taking the certification exam either at the end of the school or in the near future. Classes offered will include:

- ◆ scientific terms
- ◆ mathematics
- ◆ lagoons
- ◆ groundwater systems
- ◆ water chemistry
- ◆ mechanical systems for basic wastewater
- ◆ overview of water treatment processes

Entry level operators who have not yet taken the exam are not required to obtain continuing education credits (CEC's), so no CEC's are offered for the basic track sessions. These sessions are designed as a supplement to individual study and should be of significant value to those planning on taking the exam.



### Thirty Years of Operator Certification in Montana



oin us to help celebrate thirty years of continued protection of the public health and safety of Montana by certifying water and wastewater operators.

On March 3, 1967, governor Tim Babcock signed the first operator certification bill with several members of the water and wastewater operator community looking on.

Therefore, we are dedicating the 64th Annual Fall Water School to the 30 year anniversary of operator certification in Montana.

To celebrate this exciting event, we are inviting the founders of Montana operator certification to attend to share their experiences.

Please contact Shirley Quick at the Certification Office (443-2691), if you know of someone who is a retired operator or if you have experiences about the early days of certification that you would like to share. We will include as many of these memories in the opening presentation as time allows.

**Attend the 64th Annual Fall Water School for the celebration, the excellent learning opportunities, and for the prizes!**

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# THE 64th ANNUAL WATER SCHOOL FOR WATER & WASTEWATER OPERATORS & MANAGERS TENTATIVE PROGRAM

(Please note: NO CEC's will be given for the Basic sessions.)

JOINT MORNING SESSIONS: MONDAY, SEPTEMBER 22, 1997			
TIME	BALLROOMS B, C and D		
7:30 AM	Registration		
8:30 AM	Welcome to the 64th Annual Fall School		
9:00 AM	Operator Certification: 30 Year Celebration		
10:00 AM	Break		
10:15 AM	Operator Technology Training Program at MSU-Northern		
11:00 AM	Protecting Public Health & The Environment: CWA and SDWA		
12:00 PM	Lunch		
CONCURRENT AFTERNOON SESSIONS: MONDAY, SEPTEMBER 22, 1997			
TIME	BALLROOM D (Basic)	BALLROOM B (Joint Water Treatment Session)	BALLROOM C (Joint Wastewater Session)
1:00 PM	Certification	1996 Amendments: SDWA Reauthorization	Wastewater Treatment in Montana
2:00 PM	Scientific Terms	PWS Needs Survey	
3:00 PM	Water School Vendor Show		



CONCURRENT MORNING SESSIONS: TUESDAY, SEPTEMBER 23, 1997						
TIME	BALLROOM D (Basic)	BALLROOM B	BALLROOM C (Small Systems & Distribution)	ROOM 275/276	Burns Telecommunications Center/EPS Building	
8:00 AM	Conversion Factors	Surface Water Treatment: Open Discussion	Valves & Hydrants	Wastewater Microbiology	Interactive Operator Training	
9:00 AM	Geometry: Volumes & Areas		Storage Reservoir Maintenance			
10:00 AM	Break					
10:15 AM	Basic Hydraulics; Capacity; Force, Pressure & Water	Surface Water Treatment: Open Discussion(cont.)	Source Water Protection	Wastewater Microbiology (cont.)	Multimedia Approach to Wellhead Protection	
12:00 PM	Lunch					
CONCURRENT AFTERNOON SESSIONS: TUESDAY, SEPTEMBER 23, 1997						
	BALLROOM D (Basic)	BALLROOM B	BALLROOM C	ROOM 275/276	Burns Telecommunications Center/EPS Building	
1:00 PM	Concentration, Dosage and Volume	Particle Counting	Pumps & Motors	Lagoon/Activated Sludge Operations	Additional Interactive Operator Training Options	
2:00 PM	Efficiency & Percentage; Discharge to Streams; Hydraulic Loading Rate		Distribution O&M			
3:00 PM	Break					
3:15 PM	Basic Track Review	Particle Counting (cont.)	Cross-Connections	Joint Wastewater Sessions: Laboratory and Microscope Examinations to Optimize Plant Operations	Additional Interactive Operator Training Options (Note: CECs Limited to 0.7)	
4:00 PM	Basic Track Review					
5:00 PM	Adjourn					



CONCURRENT MORNING SESSIONS: WEDNESDAY, SEPTEMBER 24, 1997						
TIME	BALLROOM D (Basic)	BALLROOM B	BALLROOM C	ROOM 275/276		
8:00 AM	Lagoons	Process Control	Ground Water Basics for Public Water Systems	Wastewater Treatment Plant Optimization through the Comprehensive Performance Evaluation Process		
9:00 AM	Lagoons			Wastewater Treatment Plant Self-Assessments		
10:00 AM	Break					
10:15 AM	Wastewater Treatment: Activated Sludge	Pump Packings or Pumps & Motors	Iron Bacteria	Trouble-shooting Lagoons	Mechanical Plants: Experiences & Solutions	
11:15 AM	Wastewater Treatment: Activated Sludge		Biological Regrowth	Montana Lagoon Experiences	Mechanical Plants: Experiences & Solutions (cont.)	
12:00 PM	Lunch					
CONCURRENT AFTERNOON SESSIONS: WEDNESDAY, SEPTEMBER 24, 1997						
TIME	BALLROOM D (Basic)	BALLROOM B	BALLROOM C	ROOM 275	ROOM 276	
1:00 PM	Basic Ground Water Systems	Flocculants and Polymers	Chlorine and Alternative Disinfection: UV and Ozone	Collection System Maintenance	Developing Total Maximum Daily Loads in Montana's Watersheds: The Role of Wastewater Operators	
2:00 PM	Distribution System Basics	Chemical Unloading		Lift Station Design & Operation		
3:00 PM	Break and Plant Tours					
3:15 PM	Water Treatment Overview	Bozeman Water Treatment Plant Tour	Bozeman Distribution System	Bozeman Wastewater Treatment Facility		
3:00 PM						
5:00 PM	Adjourn					



**JOINT MORNING SESSIONS: THURSDAY, SEPTEMBER 25, 1997**

**BALLROOMS B, C and D**

<b>TIME</b>	
<b>8:00 AM</b>	<b>Surge Protection</b>
<b>9:00 AM</b>	<b>Fall Protection</b>
<b>10:00 AM</b>	<b>Break</b>
<b>10:15 AM</b>	<b>Safety Plans for Large Systems (Ballrooms B &amp; C)</b>
<b>11:30 AM</b>	<b>Safety Plans for Small Systems (Ballroom D)</b>
<b>Wrap-up: School Evaluations/Closing Comments by School Director/Adjourn</b>	

**General Wastewater Treatment Review (Room 276)**  
**NO CEC's - For Certification Exam Preparation Only**

**General Water Treatment/Distribution Review (Room 275)**  
**NO CEC's - For Certification Exam Preparation Only**

## 1997 Water School Registration Form

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Preregistration: \$ 90.00 per person

On-site Registration: \$105.00 per person

Total Amount Enclosed: \$ \_\_\_\_\_

Day time phone: \_\_\_\_\_

Method of payment: ☐ Check (payable to MSU) ☐ Credit Cards (Visa, MC, Disc) Expiration Date: \_\_\_\_\_ Card No. \_\_\_\_\_

☐ Send Bill to Institution: \_\_\_\_\_ PO No. \_\_\_\_\_

Address: \_\_\_\_\_ Phone: \_\_\_\_\_

Complete a copy of this form and return with your payment to:

**Extended Studies • P.O. Box 172200 • Bozeman, MT 59717-2200 • Phone: (406) 994-6683**

No refunds will be issued after the school begins. A refund of registration, minus \$10.00 administration cost, will be provided prior to the beginning of the program. Checks and Purchase Orders should be payable to **Montana State University**.



# Permitting & Compliance Division

Metcalf Building, 1520 East Sixth Avenue, P. O. Box 200901, Helena, MT 59620-0901

Phone (406) 444-2691 • Fax (406) 444-1734

## Examination Notice

Friday ~ September 26, 1997 ~ 8:30 a.m. to 12:30 p.m.

Examinations have been scheduled on the above date for certification as operators for Water Distribution Systems, Water Treatment Plants, Well Water Supply Systems, Wastewater Treatment Plants, and Wastewater Lagoons at the following location:

**Strand Student Union  
Montana State University ~ Bozeman**

Please contact the certification office for information on the Math Review sessions free for all pre-registered examinees in Bozeman on Thursday afternoon, September 25, 1997. The Water School being held on the MSU campus September 22-25 will include basic training for entry level operators. **Attendance at the Water School is not mandatory, but is recommended.** To request a brochure on the Water School call MSU at 406/994-4930. Fees for the school are payable to MSU with pre-registration.

### BY SEPTEMBER 11, 1997 EVERYONE TAKING THESE EXAMINATIONS MUST HAVE:

- ✓ Completed and returned an application for certification as a water/wastewater operator.
- ✓ Paid the annual application fees for fiscal year 97 which runs from July 1, 1997 to June 30, 1998.
- ✓ Submitted an examination registration slip and fee of \$20 per examination. (Combination examinations 2A3B, 3A4B, 4AB and 5AB require \$20 examination fee only.)

**APPLICATION FEES ARE:** One \$30 fee for any water type and classification of exam; and one \$30 fee for any wastewater type and classification.

**TO REGISTER FOR THIS EXAM:** Detach and mail the registration slip below to the following Helena address. For additional information, call Shirley Quick at the Helena operator certification office at 406/444-2691 or write:

Water & Wastewater Operator Certification  
Department of Environmental Quality • Box 200901 • Helena 59620-0901



PLEASE RETAIN THE UPPER PORTION OF THIS NOTICE

### Examination Registration Slip

(Mark which exam you will be taking, detach and return with the appropriate fees by September 11, 1997)

Type	Class	1	2	3	4	5
Water Distribution	A	_____	_____	_____	_____	_____
Water Plant	B	_____	_____	_____	_____	_____
Wastewater Plant	C	_____	_____	_____	_____	_____

Name: \_\_\_\_\_ System: \_\_\_\_\_

Address: \_\_\_\_\_ Operator #: \_\_\_\_\_

[Objects of revenue: exam 5002, water app (A&B) 5005, wastewater app (C) 5006]



# Math Review for Certification Exam

Montana State University  
Strand Student Union Building  
Bozeman, Montana

September 25, 1997  
Thursday ~ 1:15 p.m. - 4:30 p.m.

*Presented by*  
DEQ Staff and "Friends"

$+ \% \pm - * = ? \div \# + \% \pm - * = ? \div \# + \% \pm - * = ? \div \#$

**T**his session is intended to review basic math for people with valid applications for the exam being given on Friday, September 26. You will never learn everything you need to know at a water school to pass the exam OR to be a competent operator. The study materials we provide and suggest are designed for home study.

Additionally, during the Water School in Bozeman, September 22-25, 1997, there will be sessions covering basic material related to water and wastewater treatment. The sessions are organized to cover treatment-related math and concepts. Training staff will be available each day to help answer questions you may have from your self-study, and to give you an overview of information.

Since these sessions are designed for entry level operators who do not need to acquire continuing education credits (CECs), no CECs are allowed for Thursday afternoon or the basic track during Water School.

For more information contact Shirley Quick, Water/Wastewater Certification Office, Permitting and Compliance Division, 444-2691.

*Sponsored by*  
Department of Environmental Quality



# OPPORTUNITY

## *Please consider a Vendor Display* *at the 64th Annual Water School for...* **Water & Wastewater Operators**

Montana State University  
September 22, 1997 - 3:00 p.m. ~ 7:00 p.m.

**T**he organizers of the Annual Water School would like to make the expertise of manufacturers serving Montana available to our Water School attendees. We anticipate around 200 registrants from all corners of Montana, so your audience will be significant.

If you would like to participate in our school, we invite you to set up a display or act as a sponsor during the vendor exhibits. We believe it is also important to allow Montana operators a chance to look at the new technologies offered by manufacturer representatives working in this region. It is our hope that participants will have their interests piqued not only about advances in their own technological areas, but also in other related fields.

You are encouraged to exhibit or sponsor at the vendor reception Monday, September 22 from 3:00 to 7:00 p.m. There is an exhibitor fee of

\$100.00 to cover the cost of the room and other related charges. We plan to have an unusual door prize, food and refreshments, as well as a keg of beer. All participants are being encouraged to join in this gathering at the close of the first day.

Vendor spaces are limited, so we hope you will respond with this Vendor Registration form as soon as possible. Please let us know if you can join in this technology Happy Hour, and inform us of any special needs you might have in order to effectively display your exhibit.

Given the present focus on water, this is bound to be a year of great participation and enhanced interest. Your presence would be a special bonus.

If you have technical questions, please call Bill Bahr (Waste Water) 406-444-5337 or Rick Cottingham (Water) 406-444-4549. For questions regarding registration and set-up, please call Janine Hansen 406-994-6685.

**To register, please send this completed form along with your \$100.00 registration fee to:**

**Water School, Extended Studies  
204 Culbertson  
Montana State University  
Bozeman, MT 59717**

*Please make your checks payable to:* **Montana State University** *Thanks!*

Name: \_\_\_\_\_  
Firm: \_\_\_\_\_ Phone: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_



# The Source Water Assessment Program

*As required by the 1996 Amendments to the Safe Drinking Water Act*

## What is a Source Water Assessment Program?

**S**ection 1453 of the 1996 Amendments to the federal Safe Drinking Water Act (SDWA) requires primacy states to “*carry out directly or through delegation, a source water assessment program.*” A Source Water Assessment Program (SWAP) will **delineate** the boundaries of an assessment area from which public water systems (PWS) derive their water (surface water or groundwater) and then identify the origins of regulated contaminants to **assess** the susceptibility of the PWS.

## Does the Montana WHP Program meet the SWAP requirements?

**T**he Montana Wellhead Protection Program already in place appears to meet the SWAP mandate for groundwater systems with the possible exception of the required susceptibility assessment and the SDWA mandated time table. To fully comply with the new requirements Montana must develop a program which delineates the source of water for both surface and ground water systems, identify the origins of significant contaminants, and assess for system susceptibility within the time frames mandated by law.

## What is the SDWA Mandated Time Table?

**U.S.** EPA must publish guidance for states to use when developing a Source Water Assessment Program by August

of 1997. States must then submit a source water assessment program to EPA by March 1999.

States have two years from the date of program approval in which to complete the source water assessment program and EPA can extend that deadline by an additional 18 months.

## What About Using Other Programs to get this Done?

**T**he state source water assessment program may use all reasonably available hydrogeologic information and may make use of data generated by PWS vulnerability assessments, sanitary surveys, monitoring, wellhead protection delineations, and delineations or assessments completed as part of a watershed initiative. “*The state shall make the results of the assessments available to the public.*”

## How is SWAP Funded?

**F**unding for this program is made available through Section 1452 of the Safe Drinking Water Act, a.k.a., drinking water state revolving fund-capitalization grant. The Montana portion is estimated at \$14.8 million. The state will match the capitalization grant with a 20% contribution (derived through bond sale). It is anticipated that \$740,000 will be set aside for the source water assessment program. This expenditure must be made in FY 96 and FY 97 and obligated within four years. Additionally, \$100,000 will likely be set aside from the capitalization grant for source water protection technical assistance. This amount must be matched dollar for dollar by the state with funds that are currently generated by fees.



PWSs may be able to take advantage of the new state revolving fund for drinking water systems in order to implement source water assessment plan recommendations.

## **How Will Montana Approach the SWAP Mandate?**

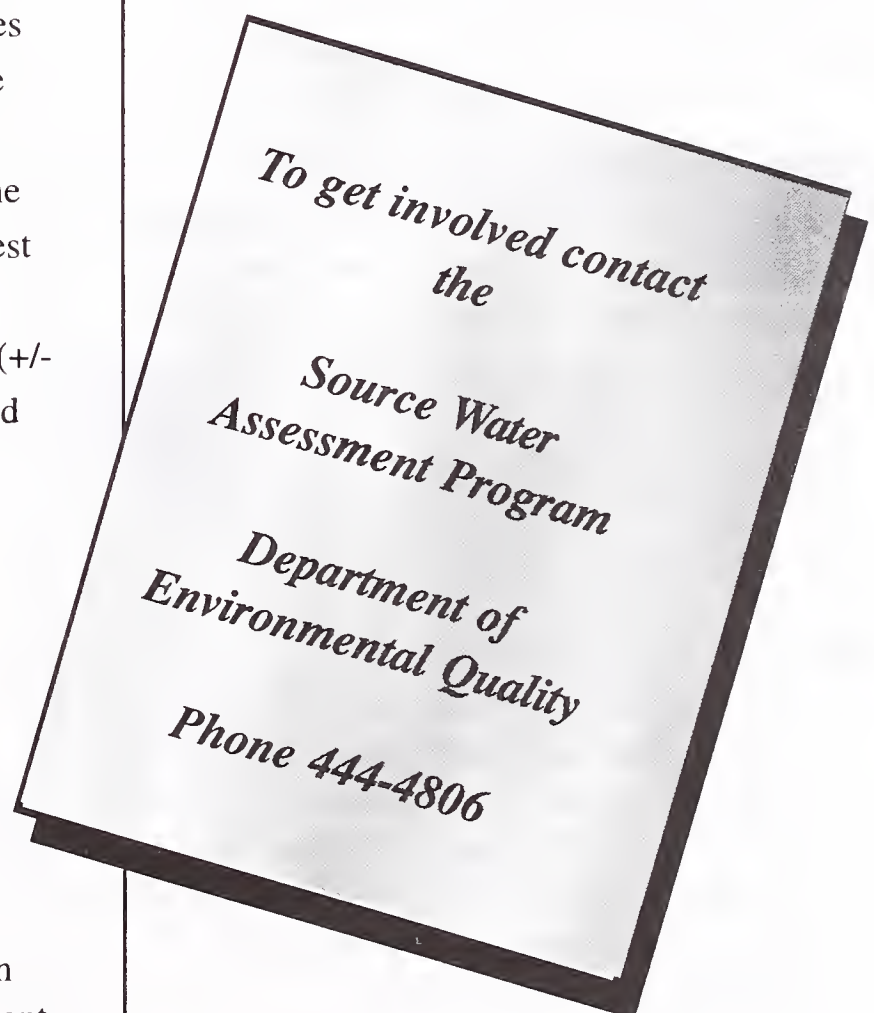
**M**ontana currently has approximately one thousand nine-hundred public water systems classified either as community, non-transient, or transient. Water from community and non-transient type systems (about 800 total) generates greater exposure for consumers to potential contaminants than transient systems. Therefore, it is probable that DEQ would develop a source water assessment program which prioritizes implementation based on PWS classification, size and known risk. For example, DEQ might target community and non-community PWSs serving one thousand or more persons first, followed by the rest in those classifications and lastly, provide delineations and assessments for transient PWSs (+/- 1100 total). The actual program will be developed with the assistance of both technical and citizen advisory committees.

Source Water Protection is a community-based approach to protecting drinking water from contamination. This type of effort can help identify the origins of contaminants and determine the best way to manage them at the community level. Also, Source Water Protection can work very well with existing programs, serving as a focal point or prioritization scheme for permitting, inspections, and enforcement and help ensure existing programs achieve the greatest benefits for the cost.

## **How Can I Get Involved?**

**I**f you're not currently active in developing a wellhead protection plan, you should be! Contact the Source Water Assessment Program at DEQ (444-4806) to find out how to get started.

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# Food Service Requirements...

## *when your Public Water Supply is under a Boil Water Order*

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*By Rick Cottingham, Water Quality Specialist, DEQ*

**P**rocedures to be followed when a food service establishment, school, or public accommodation is placed under a **BOIL WATER ORDER** (per Food and Consumer Safety Section, DPHHS).

**T**his Safety Bulletin has been developed by the Public Water Supply Program, Permitting and Compliance Division, Department of Environmental Quality, to better define the procedures that must be implemented within a food service establishment, school or public accommodation which uses any water supply that has been placed under a **BOIL WATER ORDER**.

### **Food Service Establishment**

- 1) Tap water may not be served to customers unless it has been boiled for at least five (5) minutes. It must be stored and served from clean, covered containers that have been sanitized prior to use. Bottled water obtained from a source approved by the regulatory authority may also be served.
- 2) Only bottled water may be used to prepare foods and beverages which will not be cooked or heated thoroughly before being served. This would include items such as iced tea, Kool-Aid, frozen fruit juices, non-dairy coffee creamers, gelatin desserts, and any similar foods to which water is added to reconstitute the product before service.

- 3) If the establishment wishes to continue to serve ice, it must be obtained from a source approved by the health authority, e.g., licensed establishment. Ice manufactured in the affected establishment may not be served or added to foods or beverages as an ingredient or for cooling purposes.
- 4) Tap water may not be used to wash or prepare foods such as vegetables, fruits, or produce which will be served raw or not thoroughly cooked before being served.

Either boiled water or disinfected tap water\* must be used to wash and rinse these foods.

\* Tap water may be disinfected for washing and rinsing foods by adding ten (10) drops of household bleach (Purex, Clorox, Hi-Lux, etc.) to each gallon of tap water in a clean container. The solution must be thoroughly mixed, covered, and allowed to sit at least one (1) hour at room temperature before it is used. If the solution has an objectionable odor, it may be kept overnight in a loosely covered, clean container to allow the chlorine to dissipate.



- 5) Dishes, utensils, and equipment can be adequately sanitized either by chemical sanitation or 180-degree F. final rinse water in a mechanical dishwasher.

However, all pots, pans, and food service equipment and other utensils used to prepare or hold foods which will not be cooked before being served **must not** be rinsed with unboiled tap water (from this or any other public water supply that is currently under a boil water order) before they contact those foods. Special care should be taken to insure that all utensils and equipment are being properly washed and sanitized before use.

### **Public Accommodations**

- 1) A notice informing occupants that the tap water is not safe to drink must be conspicuously posted in each room.
- 2) Boiled or bottled water from a licensed source must be provided in each room for drinking and tooth brushing.
- 3) The establishment's ice machine must be turned off, and only ice from a licensed source may be provided to the occupants.

### **Schools**

- 1) All drinking fountains must be turned off.
- 2) All sinks to which students and staff have access must be conspicuously signed to warn that the water is not safe to drink. Disposable cups should be removed from hand sinks located in kindergarten and primary grade classes.

- 3) Boiled and bottled water from an approved source must be provided for students.
- 4) School lunch programs must follow the recommendations outlined above for food service establishments.

**In all instances, these recommendations must be implemented and maintained until the Boil Water Order is removed by the Public Water Supply Program, Community Services Bureau, DEQ.**



If you need any further assistance to implement a Boil Water Order in a food service establishment, public accommodation or school, please call the Public Water Supply Program, Community Services Bureau, DEQ, at 406-444-4323, or the Food and Consumer Safety Section, Department of Public Health and Human Services, at 444-2408.

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# Iron & Iron Bacteria in Groundwater

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*By Terry Campbell*



e've all come across wells in Montana that produce foul-smelling water that can stain fixtures and laundry.

Various sources of taste/odor problems exist in the state, but none is more prevalent than "iron bacteria." A study conducted in Saskatchewan found approximately 90 percent of all wells had some level of these bacteria present and helps confirm why a large percentage of the technical assistance calls that the Public Water Supply program handles in Montana are related to this well water problem.

"Iron bacteria" is a term loosely applied to various bacteria that thrive in groundwater with iron content above 0.2 mg/L of iron. Wells with high levels of iron are susceptible to growth of these types of bacteria. They can enter a well in many different ways, but more than likely they are introduced from the surface during installation of the well, or during maintenance of a pump, or through an air gap in the well seal. These bacteria are common surface and soil forms of bacteria.

## So, what is the problem?



Iron bacteria can form a heavy biomass if allowed to colonize in a well. It appears as a gelatinous substance which will usually have an orange or rust colored appearance. The bacteria feed on the iron rich groundwater and increase the oxidation reduction cycle. This biochemical reaction causes more iron oxidation (rust development) and increases the detrimental effects of the iron. A submersible pump actually adds heat to the water immediately surrounding it. The few additional degrees creates

an increased temperature zone which becomes a desirable location for the bacteria, since the bacteria reproduce better at the slightly elevated temperature.

## Is there a health risk?



Iron is an unregulated inorganic mineral that occurs naturally in groundwater. It is not currently regulated because it is not believed to pose a health risk. Drinking water standards suggest 0.3 mg/L of iron is generally acceptable in well water used for drinking. Any water source with more iron than this probably will require treatment to provide an aesthetically pleasing tap water.

Although iron bacteria are not thought to pose a health risk, they can make it difficult to perform routine tests for coliform bacteria. (Based on the current Total Coliform Rule established by EPA, they can lead to a Health Advisory.) They will generally show up as Heavy Growth Non Coliform bacteria, or Too Numerous To Count (TNTC) Non Coliform bacteria in a lab report. Because of the density of these forms of bacteria in a lab sample, the lab generally cannot confirm if pathogenic bacteria are present. A well that can support one type of bacteria probably can also support other forms which may be disease causing.

Iron bacteria usually are mainly an aesthetic concern, but can significantly shorten the life of a well or pump. If allowed to progress to critical levels, the biomass (which is partially iron) can lead to plugging of the intake screens, or pump itself. It can also result in weakened well casing



which can then collapse. Another form of bacteria will sometimes cohabit the well with iron bacteria. These are sulfate-reducing bacteria. A rotten egg odor coming from a well could be the result of sulfate-reducing bacteria. The odor is from hydrogen sulfide gas produced by these bacteria when they break sulfate compounds down for food.

### **What can be done to prevent this problem?**

**H**igh quality construction of a well is one of the most effective means to prevent this potential problem from ever occurring. Only well drillers who properly sanitize the drilling equipment between job sites should be used. Anyone hiring a driller should witness this activity. The same applies to the pump installer. Proper site selection, grouting of the well casing and development of a good tight sanitary seal are crucial. Disinfection of a newly installed well is also critical.

Getting rid of an existing biomass is virtually impossible. Unfortunately these forms of bacteria are very resilient to chlorine and other disinfectants. Very strong doses of chlorine can be periodically applied to keep the biomass under control, but once it has developed, it will likely never be eliminated. The typical bacteria biomass develops out into the surrounding aquifer a ways away from the intake. It is very difficult to force chlorine solution out to these zones, so once the chlorine is gone from the system, the biomass re-establishes itself and moves back into the well. This can occur quickly (within months), or may take years, depending on the well characteristics.

Continuous disinfection of the well itself is a possibility, but this technique can cause fluctuating chlorine levels to be delivered to customers, resulting in complaints. Anyone actually experiencing this type of groundwater problem should contact the technical staff in DEQ, Public Water Supply program for technical assistance in controlling this problem.

*Please call the  
Public Water Supply  
Program,  
Community Services  
Bureau, DEQ,  
at 406-444-4323  
for help!*

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## Public Water Supply Water Quality Enforcement Cases

for the  
First Six Months of 1997

**T**he Enforcement Division of the Department of Environmental Quality has completed its internal re-organization. John Arrigo is the Division Administrator, Frank Gessaman was named Bureau Chief for Case Management, and Ed Thamke is the Complaint Management Section Chief. The Enforcement Division was formed to centralize departmental enforcement actions and to act as a clearinghouse for all complaints to the Department of Environmental Quality.

The Enforcement Division has established a central telephone number to receive all complaints regarding potential violations of rules administered by the Department of Environmental Quality. The new Complaint Hotline telephone number is (406) 444-0379. Since January 1, 1997, the Enforcement Division has received 603 complaints regarding potential environmental violations.

The Case Management Bureau issued 14 Public Water Supply and Water Quality Administrative Orders and one Public Water Supply Civil Complaint in the first six months of 1997.

Penalties assessed for violations of the Public Water Supply Act in that period total \$26,397.

The following table outlines the site, violation and penalty.

Site	Violation	Action/Penalty
Big Sky RV Resort Rollins, MT	Non-compliance with the Surface Water Treatment Rule	Administrative Order - No penalty assessed
Blue Moon Saloon Plentywood, MT	Failure to perform bacteriological and nitrate/nitrite monitoring	Administrative Order - \$3,105
Blue Moon Nite Club Columbia Falls, MT	Failure to perform nitrate/nitrite monitoring	Administrative Order \$410
Border Bar Turner, MT	Failure to perform bacteriological and nitrate/nitrite monitoring	Administrative Order - \$1,380
Culligan Bottling Butte, MT	Failure to obtain approval of plans prior to construction and operation	Civil Complaint \$15,000
Denny's Essex, MT	Non-compliance with the Surface Water Treatment Rule	Administrative Order No penalty assessed
Elks Lodge Lewistown, MT	Failure to perform bacteriological monitoring	Administrative Order - \$1,800
Essex Water Users Assoc. Essex, MT	Non-compliance with the Surface Water Treatment Rule	Administrative Order - No penalty assessed
Town of Harlowton, MT	Non-compliance with MPDES permit	Administrative Order - No penalty assessed
Katy's Wildlife Bynum, MT	Failure to perform bacteriological and nitrate/nitrite monitoring	Administrative Order - \$1,035
The Lodges Seeley Lake, MT	Non-compliance with the Surface Water Treatment Rule	Administrative Order - No penalty assessed
Midway Tavern Raymond, MT	Failure to perform bacteriological and nitrate/nitrite monitoring	Administrative Order - \$575
Town of Park City, MT	Non-compliance with MPDES permit	Administrative Order - No penalty assessed
Patriot Water Systems Great Falls, MT	Failure to perform bacteriological and nitrate/nitrite monitoring	Administrative Order - \$3,092
Town of Stanford, MT	Non-compliance with MPDES permit	Administrative Order - No penalty assessed

The Department of Environmental Quality is actively pursuing Public Water Supply and Water Quality Act violations. If you have any questions related to your system's level of compliance, please call the Community Services Bureau or the Water Protection Bureau at (406) 444-4323.



# Management & Supervision for Water & Wastewater Operators offered by METC

*By Barb Coffman, Training Specialist*



Would you like to learn:

- ✓ How to effectively manage a treatment facility?
- ✓ How to supervise employees and maintain efficient operations?
- ✓ How to obtain, sharpen or refine management and supervisory skills?

**I**f so, then attend METC's two day workshop on Management and Supervision for Water and Wastewater Operators to be held in Great Falls at MSU-Northern on October 28-29, 1997. This workshop was not listed in the 1997 Training Calendar.

## About the Workshop

The workshop will focus on the skills supervisors must have to effectively manage treatment facilities. Participants learn how to supervise employees and maintain efficient operations. Based on the Management Skill Training Package available from Water Environmental Federation (WEF), this workshop makes use of lectures, audiovisual material, exercises and group discussions to introduce or refine management and supervisory skills. Veteran managers who want to sharpen their skills, those who have recently moved into supervisory positions, and those wanting to gain knowledge of how to become a supervisor will benefit. This workshop is suited for water and wastewater operators from small municipalities with population of less than 10,000.

## About the Instructor

Gerald B. Samuel, a graduate of the University of Alberta Faculty of Civil Engineering and a

registered professional engineer in the province of Alberta, is currently the manager of certification and training for the Municipal Branch of the Alberta Department of Environment. With 23 years of experience in workshops and lectures, he was the architect of both the current Water and Wastewater Operator Training and Certification Programs for Alberta. Mr. Samuel conducts workshops and seminars for operators across Alberta and most of Canada. He has also conducted workshops for the University of Florida's TREEO Center and the Association of Boards of Certification. Mr. Samuel worked with Environment Canada and WEF on both the development and field testing of the Management Skill Training Package. He has facilitated workshops on this topic for operators many times over the past 15 years.

## CEC's and Fees

The amount of CEC's and Fees for the workshop have not been determined yet. But, both water and wastewater operators will be able to earn CEC's.

## For More Information

For more information on this and other METC workshops contact Jan or Barb at (406) 454-2728 or check out our Web site at <http://polaris.nmclites.edu/metc/metc.htm>.





# Montana Environmental Training Center... Begins Its 10th Year of Training

*By Barb Coffman, Training Specialist*

**O**n October 1, 1997 METC will begin its tenth year of providing training to Montana's water and wastewater operators and other environmental professionals.

METC began as a result of the cooperative efforts of MSU-Northern (then Northern Montana College) and the Department of Environmental Quality (then Department of Health and Environmental Sciences). In 1988, an EPA 109(b) grant was awarded to help Montana establish the training center and purchase equipment and supplies. The grant is administered by MSU-Northern with support from DEQ's Technical and Financial Assistance Bureau and Community Services Bureau.

METC's goals have always been and continue to be to provide a focal point where state training can be coordinated, to develop and implement effective training, and to provide technical guidance for water and wastewater operators and other environmental and public health professionals. This process contributes to **preserving** the large public investment in water and wastewater systems and to **protecting** and **improving** the quality of Montana's environment.

METC's operator training activities have increased since its inception. From no full-time staff positions, METC now has two full-time employees, the training coordinator and the training specialist, and a part-time administrative assistant. The staff coordinates and implements effective training programs with guidance from METC's Steering Committee.

The five-member Steering Committee provides policy direction and guidance to METC. Two

members from MSU-Northern, two members from DEQ, and one member selected at-large make up the committee. The at-large members serve two-year terms and have included two executive directors from state water and wastewater assistance programs, a wastewater system operator, and two wastewater system superintendents.

METC also utilizes input and direction from an advisory committee. The committee meets annually to review METC activities, and offers recommendations for training improvements, dates, and locations for training. Currently, this committee has 24 members. This diverse group represents small and large water and wastewater system operators, rural technical assistance programs, educational institutions, engineers, sanitarians, and the state water and wastewater operator certification program.

METC's work has expanded steadily during its existence, and has always tried to reach out to state operators by holding seminars across Montana. In 1989 METC conducted 16 workshops. By comparison, in 1997, METC will have conducted 33 continuing education workshops and three schools, which include entry-level training and examination opportunities for people to become certified water and wastewater operators. METC has presented over 300 workshops reaching more than 7,000 participants. Increase in attendance at METC workshops is largely due to growth in the number of certified water and wastewater operators, as well as an increasing interest of a diverse group of others, including well drillers, engineers, sanitarians and other environmental professionals.



Increased attendance due to the expanded audience can be directly related to the role the annual METC training calendar plays in informing operators and other water quality professionals about available environmental training in Montana and the surrounding region. Distribution of the annual training calendar has grown from 500 calendars in 1989 to over 2000 calendars in 1997. Other media used for announcing METC training include Montana newspapers and the METC quarterly newsletter.

Prices for one day workshops have increased from \$15/day in 1988 to \$50/day in 1997. This is still far below the average cost for one day workshops sponsored by training centers in other western states.

METC will reach a milestone in 1997 with depletion of the EPA 109(b) grant. Operation and maintenance of METC will then continue through a more self-sufficient, fee-based process along with continued support from MSU-Northern and DEQ.

So, as METC ventures into its 10th year of training Montana's water and wastewater operators and other environmental professionals, it will continue to offer a variety of training ranging from basic to advanced water and wastewater treatment, process control, laboratory procedures, new technology, regulations, safety, communication skills, and more.

Anyone interested in METC training should watch for the quarterly training announcement sent out with the METC newsletter in March, June, September, and December. You may also obtain information and register for upcoming workshops through METC's Internet site at <http://polaris.nmclites.edu/metc/metc.htm>, or call METC at (406) 454 - 2728.

**METC**  
*continues to offer a variety  
of training ranging from:*

- *basic to advanced water and  
wastewater treatment*
- *process control*
- *laboratory procedures*
- *new technology*
- *regulations • safety*
- *communications skills  
and more*



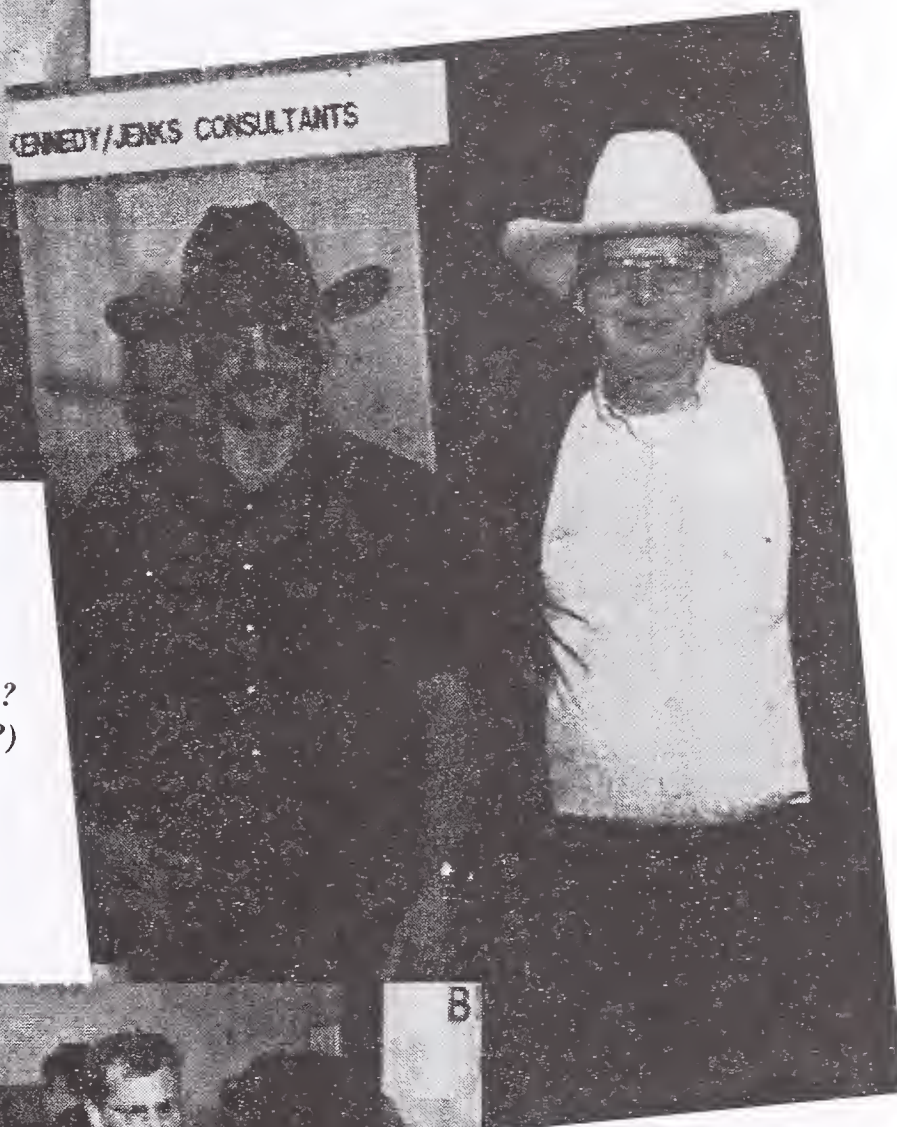


**S** *scenes from the 1997 Joint Annual Conference of the Montana Water Environment Association and the Montana Section of the American Water Works Association held in West Yellowstone on May 7-9. The theme for this year's conference was "WATER: THE TEASURE STATE'S GREATEST TREASURE." The conference included a pre-conference by MWEA on Solids Handling and many exceptional sessions in the technical program. Attendance was very good (around 150 people), and many brought their families to enjoy sight-seeing in the area. The manufacturer's representatives put together one of the best displays in recent years. Hats off to all who helped and attended!*





*MWEA member, Scott Anderson (center), makes the final decision between MSAWWA chair, Chip Johnson (left), and Rob Renner, AWWA Vice President (right), in the WORST TIE contest.*



*Does anyone know these two desperadoes?  
(Does anybody want to know them?)*



*It seems like the Vendor Reception was always hopping.*



*Barry Damschen must have been telling the guys about his fishing trip. They look pretty skeptical.*



*Barb Neuwerth and Jim Melstad of DEQ are probably discussing the new drinking water SRF program. In between bites, that is!*



*David Haverfield, manager of the Lolo RSID, finally got his EPA flag for the best plant in the nation. Congratulations!*







*MWEA president, Paul Montgomery, presents the 1997 BIOSOLIDS Award to Glacier Gold Compost of Olney, Montana.*



*MSAWWA chair, Chip Johnson, receives the AWWA's most prestigious award, the Fuller Pin from previous Fuller Award winners.*



*WEF treasurer, Stanton Lesieur, presents Wayne Robbins, EOS-Great Falls WWTP manager, with the Hatfield Award.*



*The 1997 Small System Award went to the folks at Amsterdam-Churchill.*



# Montana Section-AWWA Director's Report

July 1997

**T**he AWWA Board of Directors met a number of times during its annual conference which was held this year in Atlanta. The first meeting was a special session on June 14, with the main topic being "Diversity and the 21st Century." The main thrust of the discussion centered on whether the Directors-at-Large and the council chairs should be allowed to vote in the election for AWWA president. Currently, only corporate directors are allowed to vote. The Board will be making a final decision on this at our mid-winter meeting January 1998, I would appreciate any comments Montana Section members may have in this regard. It appears that the Board is leaning toward allowing the Directors-at-Large to vote, but the council chairs seem to be more in question. Again, any feelings any of you may have in this regard would be appreciated.

The Board also met all day Sunday and worked its way through a very long agenda. The consent agenda included approval of various AWWA standards, approval of amendments to by-laws regarding attendance of alternates at BOD meetings, approval of revisions to two policy statements, and various other items.

The treasurer's report indicated that the AWWA budget as of April 20, 1997 was right on target. The BOD approved the audit report of the financial statements through December 31, 1996.

In Other Action the Board also:

1. Approved a Statement of Principles from the Microbial Disinfection By-Products (M/DBP) Federal Advisory Committee.
2. Approved appointments to the Research Foundation Board of Trustees.

Various reports from officers, councils, and committees were also presented. President Beaudet has appointed me to be the Board's liaison with the Small Systems Committee. This committee met twice during the conference, and with the re-authorization of the SDWA has become very busy. More on that toward the end of this report.

Old business at this meeting included a number of items. Of note were:

1. Building Expansion. As you may know, AWWA is looking to expand its Denver facilities. President Wiley created an ad hoc committee to determine funding options for the expansion. I also have been appointed to this committee. The committee has directed staff



to determine the capacity of the proposed expansion. Various funding options include conventional financing, bonds, lease back and borrowing against our liquid reserves. A building fund drive is not considered a viable option.

2. Section Liability Insurance. The BOD was presented a copy of the Association's insurance coverage for sections. A copy of this has been forwarded to Section Chair Melstad.

A business meeting with the new board members and chaired by President Beaudet was held on Thursday. Business included establishment of a Prioritization Committee. This committee is charged with reviewing the value analysis of new and existing association programs and making recommendations on priorities.

A request for expansion of QualServe, to include wastewater facilities in a joint effort with WEF, was approved by the BOD.

As indicated earlier in this report, the Small System Committee is, and will continue to be, very active. For example:

1. Section Small System Program Award. This program is currently being developed with application forms to be sent to sections. First presentation will be at the 1998 conference (Dallas).
2. Tele-Conference on Small Systems. This is scheduled for October 1998 and will be free. It should be possible to pick it up on most satellite dishes.
3. Capacity Development Video. Staff is seeking EPA funding (\$35,000) to pay for a contractor to develop this video. It should be out in about 6 months.
4. Small Systems Section Chair Breakfast. The first breakfast was held in Atlanta with about 40 persons attending.
5. Paid staff at section level. This committee supports and encourages AWWA to provide seed money to sections for the support of small systems if the section can demonstrate the ability to sustain such a position(s).

I was presented the Fuller Award at the annual breakfast in Atlanta. I want to thank Donna Jensen for also attending, and want to thank each of the MSAWWA members for this award. I am deeply honored.

If you would like additional information regarding the activities of AWWA at the national level, please don't hesitate to contact me.

Charles S. Johnson III  
National Director



## MSAWWA Needs You !!!

*By Jim Melstad, Chair\**



he Montana Section of the American Water Works Association (MSAWWA) is looking for a few good volunteers. You must have an interest in drinking water and be willing to donate some of your time.

What are the benefits? You will have access to the people and information associated with AWWA, the largest professional water supply organization in the world. As a member, you can receive publications that contain timely information about technical, regulatory, administrative and operational issues. **More importantly, you will get out of it what you put into it.** AWWA and MSAWWA provide many opportunities for volunteers. Working on a committee or helping prepare for an annual conference can produce real results. For example, our Water for People Committee has provided a full-time salary and a motorcycle for a water system circuit-rider in Honduras. You can also build long-lasting personal and professional relationships with people that you may otherwise not meet.

In addition to "routine" committee and conference work, MSAWWA also plans to provide opportunities for water industry professionals to learn how they may be affected by reauthorization of the Safe Drinking Water Act. For example, a teleconference on the Safe Drinking Water Act is scheduled at four Montana locations on July 31 (information about the teleconference is contained in another article in this issue).

Below is a list of most of our committees and committee chairpersons. MSAWWA members that signed up for committees at our annual conference should hear soon from your committee chair person about activities for the coming year. If you want to sign up for a committee or are interested in joining AWWA, please call me at 444-5315. Have a good (and safe) summer!

- Joint (MWEA & MSAWWA) 1998 Conference Host City Committee (the 1998 Joint Conference will be in Kalispell): Lee Lievo, Bigfork 837-4566
- Joint Scholarship Committee: Henry Elbrecht, Helena 447-1567
- Joint Public Information Committee: Shelley Nolan, Havre 265-5215
- Joint Safety & Heroism Committee: Rick Cottingham, Helena 444-4769
- MSAWWA Small Systems Committee: Henry Elbrecht, Helena 447-1567
- MSAWWA Membership Committee: Beverly Young, Missoula 329-3273
- MSAWWA Honors & Awards Committee: Donna Jensen 933-8841
- MSAWWA Legislative (& Regulatory) Committee: Al Towlerton, Billings 657-8310
- MSAWWA Diversity Committee: Shelley Nolan, Havre 265-5215
- MSAWWA Education Committee: Dean Chaussee, Helena 443-5656
- Water for People Committee: John Campbell, Polson 883-2661
- MSAWWA Cross-Connections Committee: Ray Hedglin, Bozeman 582-2300

\* This article is written in my capacity as Chair of the MSAWWA, not as an employee of DEQ.



## MWEA President's Message

By Paul W. Montgomery

**A**nother year, another opportunity to formulate new goals for your organization, and to attempt to reach those previously formulated. The '97 Conference in West Yellowstone was certainly an inspirational way to bring in our new year and help us all renew the bonds which hold MWEA together. I'd like to thank all that attended, those that participated and of course, all those that helped pull it off. The technical sessions were outstanding, as was attendance at the vendor displays. And I must admit that I still find myself chuckling at the salmonid entertainment the night of the banquet.....most memorable!

What to do with the coming year? Each year we are issued a check for 365 days which we can spend any way we wish. I am asking our membership to carve out even a small fraction of that deposit to become involved and carry the message of our organization. Our mission statement (...dedicated to the preservation and enhancement of Montana's water environment...advancing science and education...etc.) is a pretty tall order to fill. It will take the concerted effort of all our members to meet its tenets. Being very much involved in family, career, recreation and relationships myself, I understand the many demands put on your individual time "bank accounts." What MWEA needs is a little of everybody rather than a lot from a few. If you have a talent for speaking, volunteer for mediating a workshop at a conference session. If you prefer to work behind the scenes, volunteer to organize a function, write an article for the newsletter, contact speakers for filling a workshop or conference program - there are a thousand tasks for our 150 (*plus or minus*) members. Contact any of the board members and let us know you're a willing pawn to be used in our cruel game! (A bit of presidential jocularity).

Next year's conference will be May 6-8 at the Outlaw Inn in Kalispell. I hope that you all have a safe and fulfilling year and that we will see you up in the Flathead in '98. In the meantime, please submit your water-related articles for publication in our upcoming newsletter (Oct., 1997) to me at 516 North Park Ave, Suite A, Helena, MT 59601. Oh, and contact us (*the Board*) if you want to be assigned to any one of our MA's committees, where the real work gets done!

Thanks,

*Paul*



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# MWEA National Director's Report

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## WEF Activities



s I enter the last year of my three-year term as national director for the Montana Water Environment Association (MWEA), I would like to thank all of the folks who supported me in the myriad of activities that MWEA has undertaken during this time. There are often few initiatives at the national level that truly impact those of us in the state association. The recent dues increase for Water Environment Federation (WEF) membership was a rare exception. Often it seems as though the national federation is too large to either address our needs as members in MWEA, or to be influenced by us in an effort to effect some change in the organization. Yet, our support of WEF efforts in environmental research, Clean Water Act reauthorization, beneficial biosolids use programs, among many others, are worthy activities and our participation is important, both to our state association and WEF. We truly become part of the global community through our affiliation with WEF.

In October, the United States will celebrate the 25-year milestone for the passage of the Clean Water Act. WEF is providing member associations with materials to share with the general public. The Clean Water Act is significant for many reasons, not the least being implementation of financial assistance to build wastewater treatment facilities and establishment of discharge standards for point source polluters throughout the nation. The successes of the Clean Water Act are many, but much remains to be done to achieve fishable, swimmable waters. MWEA will be conducting various presentations, displays and discussions

throughout the next year to celebrate the Clean Water Act.

An example of the international scope of our activities is illustrated by a new WEF outreach program to assist developing nations drastically in need of technical resources as they develop pollution control programs. WEF provides the framework for carrying on the flow of information between participating member associations (MAs) and the foreign nations. There are a variety of ways that MAs can provide assistance to these nations. One method would be for the MA to use WEF resources to contact a group (or groups) in the country and establish regular communication regarding problems, needs and other pertinent environmental issues impacting that nation. Often, there are few technical resources available, such as journals and operational manuals. Some MAs have gathered collections of WEF publications (even old ones have value in this context), and sent them to organized groups in these nations. The MA connection then becomes the primary source of assistance, but the amount of effort and types of assistance truly are limited only by the energy and imagination of the members in each MA.

I have a personal interest in pursuing MWEA involvement with pollution control efforts of groups in Thailand. My sister-in-law is from northern Thailand, and I also had the pleasure of meeting a teacher from Thailand who annually brings a group of students to Helena. She is a family friend of DEQ attorney John North. She was extremely interested in water and wastewater treatment processes. I was surprised to hear about the lack of treatment plants and the problems with water-borne disease in the country.



## Operator Professionalism

**M**ost of the people I work side-by-side with in MWEA acknowledge the benefits that membership brings. As an operator there is little question that I have experienced professional growth through my membership in MWEA. There are opportunities for education through WEF publications and seminars at the joint annual conference of MWEA and the Montana Section American Water Works Association (MSAWWA) conference. The value of the personal associations with other professionals in the field is tremendous, and the opportunity to participate in volunteer activities brings sincere satisfaction both professionally and personally.

We are celebrating the operator certification law signed by Governor Babcock in 1967. Please note that both operator associations, MWEA and MSAWWA, provided operator training at their joint annual conferences for many years prior to that. Both associations have participated in the fall operator's school cooperatively with Montana State University. The associations loaned money to the certification council helping to start the certification program. In fact, members of both associations helped write and pass the legislation signed into law by Governor Babcock. The list of officers for these associations includes professors from MSU, Department of Health administrators, certification council members, ordinary operators (like me), and community public works officials. Sounds a lot like the folks that are reading this today. Thanks again for all the opportunities to reach farther than I thought I could.

## Regional Exchange Meeting and National Conference News

**M**WEA hosted the western regional exchange meeting for WEF at Whitefish this spring. Our president, Paul Montgomery, PWOD director Starr Sullivan, and I represented MWEA at various meetings

during the exchange program. From all the comments, I gather that most folks enjoyed coming to Montana and especially enjoyed Whitefish and the surrounding area. It sure is scenic, but I wonder if we've started another wave of folks moving into Montana. The annual WEF conference, WEFTEC, will be held in Chicago this fall. The Board of Directors conducts the vast majority of its business at the national conference, but I plan to attend several technical sessions that have relevance to wastewater plants in Montana. I am always amazed at the high quality of the technical papers presented, and at the breadth and range of the topics. Since we are trying to get our Operations Challenge competition started here in Montana, I intend to get together with Starr during the conference to observe the competition and brainstorm ways we can get a team to the conference in years to come. Adios, 'til next time.

★★★★







# 1998 Joint Conference Call for Papers



**T**he Program Committee has issued a Call for Papers to be presented at the 1998 Annual Conference scheduled for May 6 - 8 in Kalispell. The Conference's technical sessions will be developed from both submitted and solicited papers. Papers should be on a subject of specific interest to Montana: water, wastewater or solid waste treatment; conservation; corrosion control in water distribution systems; alternative treatment and disinfection processes; pilot studies; biosolids management, etc. Presentations are typically 30 minutes in length. Written papers may be used to present more extensive and comprehensive topics. Papers will be chosen from abstracts or ideas submitted on or before **October 31, 1997**.

Please complete a copy of this submittal form and attach a copy of your abstract. Abstracts must be no longer than 500 words in length (two pages, double-spaced) and should include the speaker's name.

## **Abstract Submittal Form:** *(a copy of this form must accompany all abstracts)*

Title of Paper: \_\_\_\_\_

Speaker: \_\_\_\_\_

Co-authors: \_\_\_\_\_

Affiliation: \_\_\_\_\_

Street Address: \_\_\_\_\_

City/State or Province/Zip: \_\_\_\_\_ Daytime Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Audio/visual need (check items required for presentation):

☐ Slide projector

☐ Video

☐ Overhead projector

Speaker Biography: (Use back of this form, or submit attached biography)

.....  
(This section for MSAWWA/MWEA use)

Assigned Session: \_\_\_\_\_

Speaker Notified: \_\_\_\_\_

Notes/Comments: \_\_\_\_\_  
.....

If you are not interested in giving a paper but have burning issues you would like addressed, please contact the Program Committee Co-Chair listed below with your suggestions. Copies of abstracts or written suggestions should be sent to:

**Bill Bahr • Department of Environmental Quality • PO Box 200901 • Helena, Montana 59620-0901  
Phone (406) 444-5337 • Or Fax to: (406) 444-6836**



# **MSAWWA & MWEA Safety & Heroism Joint Committee Request**



## ***Greetings Montana Operators and Managers!***

**W**e are trying to identify acts of heroism from the public water supply and wastewater systems of Montana. We know that acts of heroism occur at Montana systems which warrant recognition. We want to identify these deeds and present them with an "Award of Recognition for Heroism!"

If you know of an act worthy of this prestigious honor, please send the name of the hero and a brief description of the act of heroism to the address below.

If your system has recently instituted or significantly improved upon a Safety Program, please let us know. There are countless lives saved everyday across the nation by the Safety Programs in place at public utilities.

If you have something to contribute, please contact:

**Rick Cottingham (444-4769), DEQ/Community Services Bureau; or  
Tom Slovarp (444-5323), DEQ/Technical & Financial Assistance Bureau**

*or write to:*

**Department of Environmental Quality  
1520 E. Sixth Ave. • P.O. Box 200901 • Helena, MT 59620-0901  
care of Rick Cottingham or Tom Slovarp**



# Update!

## Technology Demonstrations



The Drinking Water Assistance Program, run by the Montana Water Center, is well into its second round of demonstration projects. Over the past year, pilot or full-scale tests at public drinking water systems have documented the performance of:

- ♦ advanced computer modelling, to optimize clearwell performance
- ♦ Montana zeolite minerals, for turbidity and iron/manganese removal from source water
- ♦ mixed oxidants, for distribution-system biofilm control.

In another project, a wellhead protection guidance manual is being developed, based on the experiences of four Montana water systems. Other investigators are demonstrating a new, efficient technique for detecting waterborne *Cryptosporidium*, and others are documenting the performance of on-site wastewater systems designed to remove nitrogen.

The Water Center is considering several proposals for the next round of demonstrations:

- ♦ cost-effective corrosion-control strategies for compliance with the Lead/Copper Rule
- ♦ mixed oxidants for iron and manganese removal
- ♦ an electrochemical technique for nitrate reduction
- ♦ ceramic membranes for microbe removal.

The purpose of this program is to validate and demonstrate promising treatment methods for small water systems, at pilot or full scale. The Water Center welcomes ideas and inquiries: Call Program Engineer Gretchen Rupp at (406) 994-1748.

## Training VHS Tapes Now Available



The Department of Environmental Quality has recently completed three additional training tapes which are available for loan to public water suppliers or communities. These VHS tapes are useful for operator review, new operator training or general public education.

To check out a copy of the tapes contact Rick Cottingham at the Community Services Bureau at 444-4400, or Joe Meek at the Technical and Financial Assistance Bureau at 444-4806.



The tapes available include:

- |   |               |
|---|---------------|
| <b>History of the Safe Drinking Water Act</b>   | 24 minutes    |
| This videotape reviews how public health issues and waterborne diseases caused concern in communities and spurred legislation. It explains the connections between disease outbreaks, chemical contamination, exposure of public water supplies to various risks and the resultant legislation.   |               |
| <b>Source Water Protection Program</b>  | 19 minutes    |
| This video explains how delineation and assessment go a step beyond wellhead protection and sanitary surveys in protecting source water. It encourages PWS to implement a program before expensive treatment or remediation are necessary to correct problems which could be prevented.   |               |
| <b>Bacteriological Sampling</b>   | 32 minutes    |
| This tape clearly explains what bacteriological sampling is all about. It explains how to select a sampling site, develop a sample site plan, select a proper sampling tap, and take a good sample of your drinking water system. It also explains how samples are tested in the lab, what sample results mean, and what to do if you do have unsatisfactory samples. |               |
| <b>Cross-Connection Backflow Prevention</b>   | 60 Second PSA |
| An excellent short video for public education on back-flow prevention, it shows simple steps a homeowner can take to do their part in prevention.   |               |



# *Big Sky* Clearwater's Late Breaking News!

## Fall Water School Accommodations

**T**he Fall Water School organizers have made some reservations at the following establishments for school participants:

The Comfort Inn (till Sept. 7, 1997)  
1370 North 7th Avenue  
800-587-3833

Grantree Inn (till Sept. 7th, 1997)  
1325 North 7th Avenue  
800-624-4865

Lewis and Clark Motel  
824 West Main  
800-332-7666



**Identify yourself as a participant of the Water School. (Call Janine Hansen at MSU Extended Studies, (406) 994-6685 for Fall Water School information.)**

## What's New for Funding Infrastructure Projects???

**T**he Montana Water Environment Association (MWEA) and various public works funding agencies, e.g., CDBG, TSEP, SRF, DNRC, RD, INTERCAP, are co-sponsoring a series of infrastructure financing workshops this fall! Public entities need to learn about new application procedures and need to get an early start on planning and financing public facility projects. These sessions are designed to educate community planners and leaders about infrastructure projects, financing those projects, and how to be successful in completing what is an extremely complex and important process.

Learn what is new in applying for water and wastewater funding. Learn from experts how best to succeed in the planning and financing activities related to public works projects. Please contact Barb Neuwerth (406) 444-5322, or Bill Bahr (406) 444-5337, for more details and registration information about the workshops.

The tentative schedule follows:

October 7 - Helena  
October 15 - Missoula  
October 21 - Glendive  
October 23 - Billings

## *See you there!!*



# Comments

Please send in your submittals and/or comments for the next Clearwater publication by January 1, 1998 to the Department of Environmental Quality, P. O. Box 200901, Helena, Montana 59620-0901, attention: Bill Bahr, Editor. Thanks!







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**Department of Environmental Quality  
Planning, Prevention & Assistance Division  
P. O. Box 200901  
Helena, MT 59620-0901**

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